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Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart GG—National Emission Standards for Aerospace Manufacturing and Rework Facilities

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SOURCE: 60 FR 45956, Sept. 1, 1996, unless otherwise noted.

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§63.741 Applicability and designation of affected sources.

(a) This subpart applies to facilities that are engaged, either in part or in whole, in the manufacture or rework of commercial, civil, or military aerospace vehicles or components and that are major sources as defined in §63.2.

(b) The owner or operator of an affected source shall comply with the requirements of this subpart and of subpart A of this part, except as specified in §63.743(a) and Table 1 of this subpart.

(c) *Affected sources.* The affected sources to which the provisions of this subpart apply are specified in paragraphs (c)(1) through (8) of this section. The activities subject to this subpart are limited to the manufacture or rework of aerospace vehicles or components as defined in this subpart. Where a dispute arises relating to the applicability of this subpart to a specific activity, the owner or operator shall demonstrate whether or not the activity is regulated under this subpart.

(1) Each cleaning operation as follows:

(i) All hand-wipe cleaning operations constitute an affected source.

(ii) Each spray gun cleaning operation constitutes an affected source.

(iii) All flush cleaning operations constitute an affected source.

(2) For organic HAP or VOC emissions, each primer application operation, which is the total of all primer applications at the facility.

(3) For organic HAP or VOC emissions, each topcoat application operation, which is the total of all topcoat applications at the facility.

(4) For organic HAP or VOC emissions, each specialty coating application operation, which is the total of all specialty coating applications at the facility.

(5) For organic HAP or VOC emissions, each depainting operation, which is the total of all depainting at the facility.

(6) Each chemical milling maskant application operation, which is the total of all chemical milling maskant applications at the facility.

(7) Each waste storage and handling operation, which is the total of all waste handling and storage at the facility.

(8) For inorganic HAP emissions, each spray booth, portable enclosure, or hangar that contains a primer, topcoat, or specialty coating application operation subject to §63.745(g), or a depainting operation subject to §63.746(b)(4).

(d) An owner or operator of an affected source subject to this subpart shall obtain an operating permit from the permitting authority in the State in which the source is located. The owner or operator shall apply for and obtain such permit in accordance with the regulations contained in part 70 of this chapter and in applicable State regulations.

(e) [Reserved]

(f) This subpart does not regulate research and development, quality control, and laboratory testing activities, chemical milling, metal finishing, electrodeposition (except for electrodeposition of paints), composites processing (except for cleaning and coating of composite parts or components that become part of an aerospace vehicle or component as well as composite tooling that comes in contact with such composite parts or components prior to cure), electronic parts and assemblies (except for cleaning and topcoating of completed assemblies), manufacture of aircraft transparencies, and wastewater operations at aerospace facilities. These requirements do not apply to the rework of aircraft or aircraft components if the holder of the Federal Aviation Administration (FAA) design approval, or the holder's licensee, is not actively manufacturing the aircraft or aircraft components. These requirements also do not apply to parts and assemblies not critical to the vehicle's structural integrity or flight performance. The requirements of this subpart do not apply to primers, topcoats, specialty coatings, chemical milling maskants, strippers, and cleaning solvents that meet the definition of non-HAP material, as determined from manufacturer's representations, such as in a material safety data sheet or product data sheet, or testing, except that if an owner or operator chooses to include one or more non-HAP primer, topcoat, specialty coating, or chemical milling maskant in averaging under §63.743(d), then the recordkeeping requirements of §63.752(c)(4) shall apply. The requirements of this subpart also do not apply to primers, topcoats, and specialty coatings that meet the definition of “classified national security information” in §63.742. Additional specific exemptions from regulatory coverage are set forth in paragraphs (e), (g), (h), (i) and (j) of this section and §§63.742, 63.744(a)(1), (b), (e), 63.745(a), (f)(3), (g)(4), 63.746(a), (b)(5), 63.747(c)(3), and 63.749(d).

(g) The requirements for primers, topcoats, specialty coatings, and chemical milling maskants in §§63.745 and 63.747 do not apply to the use of low-volume coatings in these categories for which the annual total of each separate formulation used at a facility does not exceed 189 l (50 gal), and the combined annual total of all such primers, topcoats, specialty coatings, and chemical milling maskants used at a facility does not exceed 757 l (200 gal). Primers, topcoats, and specialty coatings exempted under paragraph (f) of this section and under §63.745(f)(3) and (g)(4) are not included in the 50 and 200 gal limits. Chemical milling maskants exempted under §63.747(c)(3) are also not included in these limits.

(h) Regulated activities associated with space vehicles designed to travel beyond the limit of the earth's atmosphere, including but not limited to satellites, space stations, and the Space Shuttle System (including orbiter, external tanks, and solid rocket boosters), are exempt from the requirements of this subpart, except for depainting operations found in §63.746.

(i) Any waterborne coating for which the manufacturer's supplied data demonstrate that organic HAP and VOC contents are less than or equal to the organic HAP and VOC content limits for its coating type, as specified in §§63.745(c) and 63.747(c), is exempt from the following requirements of this subpart: §§63.745 (d) and (e), 63.747(d) and (e), 63.749 (d) and (h), 63.750 (c) through (h) and (k) through (n), 63.752 (c) and (f), and 63.753 (c) and (e). A facility shall maintain the manufacturer's supplied data and annual purchase records for each exempt waterborne coating readily available for inspection and review and shall retain these data for 5 years.

(j) Regulated activities associated with the rework of antique aerospace vehicles or components are exempt from the requirements of this subpart.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15016, Mar. 27, 1998; 63 FR 46532, Sept. 1, 1998; 80 FR 76179, Dec. 7, 2015]

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§63.742 Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this section as follows:

Aerospace facility means any facility that produces, reworks, or repairs in any amount any commercial, civil, or military aerospace vehicle or component.

Aerospace vehicle or component means any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles.

Aircraft fluid systems means those systems that handle hydraulic fluids, fuel, cooling fluids, or oils.

Aircraft transparency means the aircraft windshield, canopy, passenger windows, lenses, and other components which are constructed of transparent materials.

Airless and air-assisted airless spray mean any coating spray application technology that relies solely on the fluid pressure of the coating to create an atomized coating spray pattern and does not apply any atomizing compressed air to the coating before it leaves the spray gun nozzle. Air-assisted airless spray uses compressed air to shape and distribute the fan of atomized coating, but still uses fluid pressure to create the atomized coating.

Antique aerospace vehicle or component means an aircraft or component thereof that was built at least 30 years ago. An antique aerospace vehicle would not routinely be in commercial or military service in the capacity for which it was designed.

Carbon adsorber means one vessel in a series of vessels in a carbon adsorption system that contains carbon and is used to remove gaseous pollutants from a gaseous emission source.

Carbon Adsorber control efficiency means the total efficiency of the control system, determined by the product of the capture efficiency and the control device efficiency.

Chemical milling maskant means a coating that is applied directly to aluminum components to protect surface areas when chemical milling the component with a Type I or Type II etchant. Type I chemical milling maskants are used with a Type I etchant and Type II chemical milling maskants are used with a Type II etchant. This definition does not include bonding maskants, critical use and line sealer maskants, and seal coat maskants. Additionally, maskants that must be used with a combination of Type I or II etchants and any of the above types of maskants (*i.e.,* bonding, critical use and line sealer, and seal coat) are also not included in this definition. (*See* also Type I and Type II etchant definitions.)

Chemical milling maskant application operation means application of chemical milling maskant for use with Type I or Type II chemical milling etchants.

Classified National Security Information means information that has been determined pursuant to Executive Order 13526, “Classified National Security Information,” December 29, 2009 or any successor order to require protection against unauthorized disclosure and is marked to indicate its classified status when in documentary form. The term “Classified Information” is an alternative term that may be used instead of “Classified National Security Information.”

Cleaning operation means collectively spray gun, hand-wipe, and flush cleaning operations.

Cleaning solvent means a liquid material used for hand-wipe, spray gun, or flush cleaning. This definition does not include solutions that contain HAP and VOC below the de minimis levels specified in §63.741(f).

Closed-cycle depainting system means a dust-free, automated process that removes permanent coating in small sections at a time and maintains a continuous vacuum around the area(s) being depainted to capture emissions.

Coating means a material that is applied to a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants. Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances; paper film or plastic film which may be pre-coated with an adhesive by the film manufacturer; or pre-impregnated composite sheets are not considered coatings for the purposes of this subpart. Materials in handheld non-refillable aerosol containers, touch-up markers, and marking pens are also not considered coatings for the purposes of this subpart. A liquid plastic coating means a coating made from fine particle-size polyvinyl chloride (PVC) in solution (also referred to as a plastisol).

Coating operation means the use of a spray booth, tank, or other enclosure or any area, such as a hangar, for the application of a single type of coating (e.g., primer); the use of the same spray booth for the application of another type of coating (e.g., topcoat) constitutes a separate coating operation for which compliance determinations are performed separately.

Coating unit means a series of one or more coating applicators and any associated drying area and/or oven wherein a coating is applied, dried, and/or cured. A coating unit ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating. It is not necessary to have an oven or flashoff area in order to be included in this definition.

Confined space means a space that: (1) Is large enough and so configured that an employee can bodily enter and perform assigned work; (2) has limited or restricted means for entry or exit (for example, fuel tanks, fuel vessels, and other spaces that have limited means of entry); and (3) is not suitable for continuous employee occupancy.

Control device means destruction and/or recovery equipment used to destroy or recover HAP or VOC emissions generated by a regulated operation.

Control system means a combination of pollutant capture system(s) and control device(s) used to reduce discharge to the atmosphere of HAP or VOC emissions generated by a regulated operation.

Depainting means the removal of a permanent coating from the outer surface of an aerospace vehicle or component, whether by chemical or non-chemical means. For non-chemical means, this definition excludes hand and mechanical sanding, and any other non-chemical removal processes that do not involve blast media or other mechanisms that would result in airborne particle movement at high velocity.

Depainting operation means the use of a chemical agent, media blasting, or any other technique to remove permanent coatings from the outer surface of an aerospace vehicle or components. The depainting operation includes washing of the aerospace vehicle or component to remove residual stripper, media, or coating residue.

Electrodeposition of paint means the application of a coating using a water-based electrochemical bath process. The component being coated is immersed in a bath of the coating. An electric potential is applied between the component and an oppositely charged electrode hanging in the bath. The electric potential causes the ionized coating to be electrically attracted, migrated, and deposited on the component being coated.

Electrostatic spray means a method of applying a spray coating in which an electrical charge is applied to the coating and the substrate is grounded. The coating is attracted to the substrate by the electrostatic potential between them.

Exempt solvent means specified organic compounds that have been determined by the EPA to have negligible photochemical reactivity and are listed in 40 CFR 51.100.

Exterior primer means the first layer and any subsequent layers of identically formulated coating applied to the exterior surface of an aerospace vehicle or component where the component is used on the exterior of the aerospace vehicle. Exterior primers are typically used for corrosion prevention, protection from the environment, functional fluid resistance, and adhesion of subsequent exterior topcoats. Coatings that are defined as specialty coatings are not included under this definition.

Flush cleaning means the removal of contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component or coating equipment by passing solvent over, into, or through the item being cleaned. The solvent may simply be poured into the item being cleaned and then drained, or be assisted by air or hydraulic pressure, or by pumping. Hand-wipe cleaning operations where wiping, scrubbing, mopping, or other hand action are used are not included.

General aviation (GA) means that segment of civil aviation that encompasses all facets of aviation except air carriers, commuters, and military. General aviation includes charter and corporate-executive transportation, instruction, rental, aerial application, aerial observation, business, pleasure, and other special uses.

General aviation rework facility means any aerospace facility with the majority of its revenues resulting from the reconstruction, repair, maintenance, repainting, conversion, or alteration of general aviation aerospace vehicles or components.

Hand-wipe cleaning operation means the removal of contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component by physically rubbing it with a material such as a rag, paper, or cotton swab that has been moistened with a cleaning solvent.

Hazardous air pollutant (HAP) means any air pollutant listed in or pursuant to section 112(b) of the Act.

High efficiency particulate air (HEPA) filter means a filter that has a 99.97 percent reduction efficiency for 0.3 micron aerosol.

High volume low pressure (HVLP) spray equipment means spray equipment that is used to apply coating by means of a spray gun that operates at 10.0 psig of atomizing air pressure or less at the air cap.

Inorganic hazardous air pollutant (HAP) means any HAP that is not organic.

Large commercial aircraft means an aircraft of more than 110,000 pounds, maximum certified take-off weight manufactured for non-military use.

Leak means any visible leakage, including misting and clouding.

Limited access space means internal surfaces or passages of an aerospace vehicle or component that cannot be reached without the aid of an airbrush or a spray gun extension for the application of coatings.

Mechanical sanding means aerospace vehicle or component surface conditioning which uses directional and random orbital abrasive tools and aluminum oxide or nylon abrasive pads for the purpose of corrosion rework, substrate repair, prepaint surface preparation, and other maintenance activities.

Natural draft opening means any opening in a room, building, or total enclosure that remains open during operation of the facility and that is not connected to a duct in which a fan is installed. The rate and direction of the natural draft through such an opening is a consequence of the difference in pressures on either side of the wall containing the opening.

Non-chemical based depainting equipment means any depainting equipment or technique, including, but not limited to, media blasting equipment, that can depaint an aerospace vehicle or component in the absence of a chemical stripper. This definition does not include mechanical sanding or hand sanding.

Non-HAP material means, for the purposes of this subpart, a primer, topcoat, specialty coating, chemical milling maskant, cleaning solvent, or stripper that contains no more than 0.1 percent by mass of any individual organic HAP that is an Occupational Safety and Health Administration-defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and no more than 1.0 percent by mass for any other individual HAP.

Nonregenerative carbon adsorber means a carbon adsorber vessel in which the spent carbon bed does not undergo carbon regeneration in the adsorption vessel.

Operating parameter value means a minimum or maximum value established for a control device or process parameter which, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limitation.

Organic hazardous air pollutant (HAP) means any HAP that is organic.

Primer means the first layer and any subsequent layers of identically formulated coating applied to the surface of an aerospace vehicle or component. Primers are typically used for corrosion prevention, protection from the environment, functional fluid resistance, and adhesion of subsequent coatings. Coatings that are defined as specialty coatings are not included under this definition.

Radome means the non-metallic protective housing for electromagnetic transmitters and receivers (e.g., radar, electronic countermeasures, etc.).

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value, use, or reuse. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators, or organic-water separators or organic removal devices such as decanters, strippers, or thin-film evaporation units.

Research and Development means an operation whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and is not involved in the manufacture of final or intermediate products for commerical purposes, except in a de mimnimis manner.

Self-priming topcoat means a topcoat that is applied directly to an uncoated aerospace vehicle or component for purposes of corrosion prevention, environmental protection, and functional fluid resistance. More than one layer of identical coating formulation may be applied to the vehicle or component.

Semi-aqueous cleaning solvent means a solution in which water is a primary ingredient (″ 60 percent of the solvent solution as applied must be water.)

Softener means a liquid that is applied to an aerospace vehicle or component to degrade coatings such as primers, topcoats, and specialty coatings specifically as a preparatory step to subsequent depainting by non-chemical based depainting equipment. Softeners may contain VOC but shall not contain any HAP as determined from MSDS's or manufacturer supplied information.

Solids means the non-volatile portion of the coating which after drying makes up the dry film.

Space vehicle means a man-made device, either manned or unmanned, designed for operation beyond earth's atmosphere. This definition includes integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets, and test coupons. Also included is auxiliary equipment associated with test, transport, and storage, which through contamination can compromise the space vehicle performance.

Specialty coating means a coating that, even though it meets the definition of a primer, topcoat, or self-priming topcoat, has additional performance criteria beyond those of primers, topcoats, and self-priming topcoats for specific applications. These performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates, or enhanced corrosion protection. Individual specialty coatings are defined in appendix A to this subpart and in the CTG for Aerospace Manufacturing and Rework Operations (EPA 453/R-97-004).

Spot stripping means the depainting of an area where it is not technically feasible to use a non-chemical depainting technique.

Spray-applied coating operation means coatings that are applied using a device that creates an atomized mist of coating and deposits the coating on a substrate. For the purposes of this subpart, spray-applied coatings do not include the following materials or activities:

(1) Coatings applied from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters) in which no more than 3.0 fluid ounces of coating is applied in a single application (*i.e.,* the total volume of a single coating formulation applied during any one day to any one aerospace vehicle or component). Under this definition, the use of multiple small paint cups and the refilling of a small paint cup to spray apply more than 3.0 fluid ounces of a coating is a spray-applied coating operation. Under this definition, the use of a paint cup liner in a reusable holder or cup that is designed to hold a liner with a capacity of more than 3.0 fluid ounces is a spray-applied coating operation.

(2) Application of coating using powder coating, hand-held non-refillable aerosol containers, or non-atomizing application technology, including but not limited to paint brushes, rollers, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, marking pens, trowels, spatulas, daubers, rags, sponges, mechanically and/or pneumatic-driven syringes, and inkjet machines.

(3) Application of adhesives, sealants, maskants, caulking materials, and inks.

Spray gun means a device that atomizes a coating or other material and projects the particulates or other material onto a substrate.

Stripper means a liquid that is applied to an aerospace vehicle or component to remove permanent coatings such as primers, topcoats, and specialty coatings.

Surface preparation means the removal of contaminants from the surface of an aerospace vehicle or component, or the activation or reactivation of the surface in preparation for the application of a coating.

Temporary total enclosure means a total enclosure that is constructed for the sole purpose of measuring the emissions from an affected source that are not delivered to an emission control device. A temporary total enclosure must be constructed and ventilated (through stacks suitable for testing) so that it has minimal impact on the performance of the permanent emission capture system. A temporary total enclosure will be assumed to achieve total capture of fugitive emissions if it conforms to the requirements found in §63.750(g)(4) and if all natural draft openings are at least four duct or hood equivalent diameters away from each exhaust duct or hood. Alternatively, the owner or operator may apply to the Administrator for approval of a temporary enclosure on a case-by-case basis.

Topcoat means a coating that is applied over a primer on an aerospace vehicle or component for appearance, identification, camouflage, or protection. Coatings that are defined as specialty coatings are not included under this definition.

Total enclosure means a permanent structure that is constructed around a gaseous emission source so that all gaseous pollutants emitted from the source are collected and ducted through a control device, such that 100% capture efficiency is achieved. There are no fugitive emissions from a total enclosure. The only openings in a total enclosure are forced makeup air and exhaust ducts and any natural draft openings such as those that allow raw materials to enter and exit the enclosure for processing. All access doors or windows are closed during routine operation of the enclosed source. Brief, occasional openings of such doors or windows to accommodate process equipment adjustments are acceptable, but if such openings are routine or if an access door remains open during the entire operation, the access door must be considered a natural draft opening. The average inward face velocity across the natural draft openings of the enclosure must be calculated including the area of such access doors. The drying oven itself may be part of the total enclosure. An enclosure that meets the requirements found in §63.750(g)(4) is a permanent total enclosure.

Touch-up and repair operation means that portion of the coating operation that is the incidental application of coating used to cover minor imperfections in the coating finish or to achieve complete coverage. This definition includes out-of-sequence or out-of-cycle coating.

Two-stage filter system means a dry particulate filter system using two layers of filter media to remove particulate. The first stage is designed to remove the bulk of the particulate and a higher efficiency second stage is designed to remove smaller particulate.

Type I etchant means a chemical milling etchant that contains varying amounts of dissolved sulfur and does not contain amines.

Type II etchant means a chemical milling etchant that is a strong sodium hydroxide solution containing amines.

Volatile organic compound (VOC) means any compound defined as VOC in 40 CFR 51.100. This includes any organic compound other than those determined by the EPA to be an exempt solvent. For purposes of determining compliance with emission limits, VOC will be measured by the approved test methods. Where such a method also

inadvertently measures compounds that are exempt solvent, an owner or operator may exclude these exempt solvents when determining compliance with an emission standard.

Waterborne (water-reducible) coating means any coating that contains more than 5 percent water by weight as applied in its volatile fraction.

Waterwash system means a control system that utilizes flowing water (i.e., a conventional waterwash system) or a pumpless system to remove particulate emissions from the exhaust air stream in spray coating application or dry media blast depainting operations.

Nomenclature for determining carbon adsorber efficiency—The nomenclature defined below is used in §63.750(g):

(1) A_k = the area of each natural draft opening (k) in a total enclosure, in square meters.

(2) C_{aj} = the concentration of HAP or VOC in each gas stream (j) exiting the emission control device, in parts per million by volume.

(3) C_{bi} = the concentration of HAP or VOC in each gas stream (i) entering the emission control device, in parts per million by volume.

(4) C_{di} = the concentration of HAP or VOC in each gas stream (i) entering the emission control device from the affected source, in parts per million by volume.

(5) C_{fk} = the concentration of HAP or VOC in each uncontrolled gas stream (k) emitted directly to the atmosphere from the affected source, in parts per million by volume.

(6) C_{gv} = the concentration of HAP or VOC in each uncontrolled gas stream entering each individual carbon adsorber vessel (v), in parts per million by volume. For the purposes of calculating the efficiency of the individual carbon adsorber vessel, C_{gv} may be measured in the carbon adsorption system's common inlet duct prior to the branching of individual inlet ducts to the individual carbon adsorber vessels.

(7) C_{hv} = the concentration of HAP or VOC in the gas stream exiting each individual carbon adsorber vessel (v), in parts per million by volume.

(8) E = the control device efficiency achieved for the duration of the emission test (expressed as a fraction).

(9) F = the HAP or VOC emission capture efficiency of the HAP or VOC capture system achieved for the duration of the emission test (expressed as a fraction).

(10) FV = the average inward face velocity across all natural draft openings in a total enclosure, in meters per hour.

(11) H_v = the individual carbon adsorber vessel (v) efficiency achieved for the duration of the emission test (expressed as a fraction).

(12) H_{sys} = the efficiency of the carbon adsorption system calculated when each carbon adsorber vessel has an individual exhaust stack (expressed as a fraction).

(13) M_{ci} = the total mass in kilograms of each batch of coating (i) applied, or of each coating applied at an affected coating operation during a 7 to 30-day period, as appropriate, as determined from records at the affected source. This quantity shall be determined at a time and location in the process after all ingredients (including any dilution solvent) have been added to the coating, or if ingredients are added after the mass of the coating has been determined, appropriate adjustments shall be made to account for them.

(14) M_r = the total mass in kilograms of HAP or VOC recovered for a 7 to 30-day period.

(15) Q_{aj} = the volumetric flow rate of each gas stream (j) exiting the emission control device in either dry standard cubic meters per hour when EPA Method 18 in appendix A of part 60 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration.

(16) Q_{bi} = the volumetric flow rate of each gas stream (i) entering the emission control device, in dry standard cubic meters per hour when EPA Method 18 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration.

(17) Q_{di} = the volumetric flow rate of each gas stream (i) entering the emission control device from the affected source in either dry standard cubic meters per hour when EPA Method 18 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration.

(18) Q_{fk} = the volumetric flow rate of each uncontrolled gas stream (k) emitted directly to the atmosphere from the affected source in either dry standard cubic meters per hour when EPA Method 18 is used to measure HAP or VOC

concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration.

(19) Q_{gv} = the volumetric flow rate of each gas stream entering each individual carbon adsorber vessel (v) in either dry standard cubic meters per hour when EPA Method 18 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration. For purposes of calculating the efficiency of the individual carbon adsorber vessel, the value of Q_{gv} can be assumed to equal the value of Q_{hv} measured for that carbon adsorber vessel.

(20) Q_{hv} = the volumetric flow rate of each gas stream exiting each individual carbon adsorber vessel (v) in either dry standard cubic meters per hour when EPA Method 18 is used to measure HAP or VOC concentration or in standard cubic meters per hour (wet basis) when EPA Method 25A is used to measure HAP or VOC concentration.

(21) Q_{ini} = the volumetric flow rate of each gas stream (i) entering the total enclosure through a forced makeup air duct in standard cubic meters per hour (wet basis).

(22) Q_{outj} = the volumetric flow rate of each gas stream (j) exiting the total enclosure through an exhaust duct or hood in standard cubic meters per hour (wet basis).

(23) R = the overall HAP or VOC emission reduction achieved for the duration of the emission test (expressed as a percentage).

(24) RS_i = the total mass in kilograms of HAP or VOC retained in the coating after drying.

(25) W_{oi} = the weight fraction of VOC in each batch of coating (i) applied, or of each coating applied at an affected coating operation during a 7- to 30-day period, as appropriate, as determined by EPA Method 24 or formulation data. This value shall be determined at a time and location in the process after all ingredients (including any dilution solvent) have been added to the coating, or if ingredients are added after the weight fraction of HAP or VOC in the coating has been determined, appropriate adjustments shall be made to account for them.

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§63.743 Standards: General.

(a) Except as provided in paragraphs (a)(4) through (a)(10) of this section and in Table 1 of this subpart, each owner or operator of an affected source subject to this subpart is also subject to the following sections of subpart A of this part:

(1) §63.4, Prohibited activities and circumvention;

(2) §63.5, Preconstruction review and notification requirements; and

(3) §63.6, Compliance with standards and maintenance requirements.

(4) For the purposes of this subpart, all affected sources shall submit any request for an extension of compliance not later than 120 days before the affected source's compliance date. The extension request should be requested for the shortest time necessary to attain compliance, but in no case shall exceed 1 year.

(5)(i) For the purposes of this subpart, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of his/her intention to deny approval of a request for an extension of compliance submitted under either §63.6(i)(4) or §63.6(i)(5) within 60 calendar days after receipt of sufficient information to evaluate the request.

(ii) In addition, for purposes of this subpart, if the Administrator does not notify the owner or operator in writing of his/her intention to deny approval within 60 calendar days after receipt of sufficient information to evaluate a request for an extension of compliance, then the request shall be considered approved.

(6)(i) For the purposes of this subpart, the Administrator (or the State) will notify the owner or operator in writing of the status of his/her application submitted under §63.6(i)(4)(ii) (that is, whether the application contains sufficient information to make a determination) within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted, rather than 15 calendar days as provided for in §63.6(i)(13)(i).

(ii) In addition, for the purposes of this subpart, if the Administrator does not notify the owner or operator in writing of the status of his/her application within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted, then the information in the application or the supplementary information is to be considered sufficient upon which to make a determination.

(7) For the purposes of this subpart, each owner or operator who has submitted an extension request application under §63.6(i)(5) is to be provided 30 calendar days to present additional information or arguments to the Administrator after he/she is notified that the application is not complete, rather than 15 calendar days as provided for in §63.6(i)(13)(ii).

(8) For the purposes of this subpart, each owner or operator is to be provided 30 calendar days to present additional information to the Administrator after he/she is notified of the intended denial of a compliance extension request submitted under either §63.6(i)(4) or §63.6(i)(5), rather than 15 calendar days as provided for in §63.6(i)(12)(iii)(B) and §63.6(i)(13)(iii)(B).

(9) For the purposes of this subpart, a final determination to deny any request for an extension submitted under either §63.6(i)(4) or §63.6(i)(5) will be made within 60 calendar days after presentation of additional information or argument (if the application is complete), or within 60 calendar days after the final date specified for the presentation if no presentation is made, rather than 30 calendar days as provided for in §63.6(i)(12)(iv) and §63.6(i)(13)(iv).

(10) For the purposes of compliance with the requirements of §63.5(b)(4) of the General Provisions and this subpart, owners or operators of existing primer, topcoat, or specialty coating application operations and depainting operations who construct or reconstruct a spray booth or hangar that does not have the potential to emit 10 tons/yr or more of an individual inorganic HAP or 25 tons/yr or more of all inorganic HAP combined shall only be required to notify the Administrator of such construction or reconstruction on an annual basis. Notification shall be submitted on or before March 1 of each year and shall include the information required in §63.5(b)(4) for each such spray booth or hangar constructed or reconstructed during the prior calendar year, except that such information shall be limited to inorganic HAP. No advance notification or written approval from the Administrator pursuant to §63.5(b)(3) shall be required for the construction or reconstruction of such a spray booth or hangar unless the booth or hangar has the potential to emit 10 tons/yr or more of an individual inorganic HAP or 25 tons/yr or more of all inorganic HAP combined.

(b) [Reserved]

(c) An owner or operator who uses an air pollution control device or equipment not listed in this subpart shall submit a description of the device or equipment, test data verifying the performance of the device or equipment in controlling organic HAP and/or VOC emissions, as appropriate, and specific operating parameters that will be monitored to establish compliance with the standards to the Administrator for approval not later than 120 days prior to the compliance date.

(d) Instead of complying with the individual coating limits in §§63.745 and 63.747, a facility may choose to comply with the averaging provisions specified in paragraphs (d)(1) through (d)(6) of this section.

(1) Each owner or operator of a new or existing source shall use any combination of primers, topcoats (including self-priming topcoats), specialty coatings, Type I chemical milling maskants, or Type II chemical milling maskants such that the monthly volume-weighted average organic HAP and VOC contents of the combination of primers, topcoats, specialty coatings, Type I chemical milling maskants, or Type II chemical milling maskants, as determined in accordance with the applicable procedures set forth in §63.750, complies with the specified content limits in §§63.745(c) and 63.747(c), unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(2) Averaging is allowed only for uncontrolled primers, topcoats (including self-priming topcoats), specialty coatings, Type I chemical milling maskants, or Type II chemical milling maskants.

(3) Averaging is not allowed between specialty coating types defined in appendix A to this subpart, or between the different types of coatings specified in paragraphs (d)(3)(i) through (vii) of this section.

(i) Primers and topcoats (including self-priming topcoats).

(ii) Type I and Type II chemical milling maskants.

(iii) Primers and chemical milling maskants.

(iv) Topcoats and chemical milling maskants.

(v) Primers and specialty coatings.

(vi) Topcoats and specialty coatings.

(vii) Chemical milling maskants and specialty coatings.

(4)—(5) [Reserved]

(6) Each averaging scheme shall be approved in advance by the permitting agency and adopted as part of the facility's title V permit.

(e) At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to

make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15017, Mar. 27, 1998; 71 FR 20457, Apr. 20, 2006; 80 FR 76180, Dec. 7, 2015]

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§63.744 Standards: Cleaning operations.

(a) *Housekeeping measures*. Each owner or operator of a new or existing cleaning operation subject to this subpart shall comply with the requirements in paragraphs (a)(1) through (4) of this section unless the cleaning solvent used is identified in Table 1 of this section or meets the definition of "Non-HAP material" in 63.742. The requirements of paragraphs (a)(1) through (4) of this section do not apply to spent cleaning solvents, and solvent-laden applicators that are subject to and handled and stored in compliance with 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC).

(1) Unless the owner or operator satisfies the requirements in paragraph (a)(4) of this section, place used solvent-laden cloth, paper, or any other absorbent applicators used for cleaning in bags or other closed containers. Ensure that these bags and containers are kept closed at all times except when depositing or removing these materials from the container. Use bags and containers of such design so as to contain the vapors of the cleaning solvent. Cotton-tipped swabs used for very small cleaning operations are exempt from this requirement.

(2) Unless the owner or operator satisfies the requirements in paragraph (a)(4) of this section, store fresh and spent cleaning solvents, except semi-aqueous solvent cleaners, used in aerospace cleaning operations in closed containers.

(3) Conduct the handling and transfer of cleaning solvents to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or spent cleaning solvents in such a manner that minimizes spills.

(4) Demonstrate to the Administrator (or delegated State, local, or Tribal authority) that equivalent or better alternative measures are in place compared to the use of closed containers for the solvent-laden materials described in paragraph (a)(1) of this section, or the storage of solvents described in paragraph (a)(2) of this section.

(b) *Hand-wipe cleaning.* Each owner or operator of a new or existing hand-wipe cleaning operation (excluding cleaning of spray gun equipment performed in accordance with paragraph (c) of this section) subject to this subpart shall use cleaning solvents that meet one of the requirements specified in paragraphs (b)(1), (b)(2), and (b)(3) of this section. Cleaning solvent solutions that contain HAP and VOC below the de minimis levels specified in §63.741(f) are exempt from the requirements in paragraphs (b)(1), (b)(2), and (b)(3) of this section.

(1) Meet one of the composition requirements in Table 1 of this section;

(2) Have a composite vapor pressure of 45 mm Hg (24.1 in. H_2O) or less at 20 °C (68 °F); or

(3) Demonstrate that the volume of hand-wipe solvents used in cleaning operations has been reduced by at least 60% from a baseline adjusted for production. The baseline shall be established as part of an approved alternative plan administered by the State. Demonstrate that the volume of hand-wipe cleaning solvents used in cleaning operations has been reduced by at least 60 percent from a baseline adjusted for production. The baseline shall be calculated using data from 1996 and 1997, or as otherwise agreed upon by the Administrator or delegated State Authority. The baseline shall be approved by the Administrator or delegated State Authority and shall be included as part of the facility's title V or part 70 permit.

(c) *Spray gun cleaning.* Each owner or operator of a new or existing spray gun cleaning operation subject to this subpart in which spray guns are used for the application of coatings or any other materials that require the spray guns to be cleaned shall use one or more of the techniques, or their equivalent, specified in paragraphs (c)(1) through (c)(4) of this section. Spray gun cleaning operations using cleaning solvent solutions that contain HAP and VOC below the de minimis levels specified in §63.741(f) are exempt from the requirements in paragraphs (c)(1) through (c)(4) of this section.

(1)(i) Enclosed system. Clean the spray gun in an enclosed system that is closed at all times except when inserting or removing the spray gun. Cleaning shall consist of forcing solvent through the gun.

(ii) If leaks are found during the monthly inspection required in §63.751(a), repairs shall be made as soon as practicable, but no later than 15 days after the leak was found. If the leak is not repaired by the 15th day after detection, the cleaning solvent shall be removed, and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

(2) *Nonatomized cleaning.* Clean the spray gun by placing cleaning solvent in the pressure pot and forcing it through the gun with the atomizing cap in place. No atomizing air is to be used. Direct the cleaning solvent from the spray gun into a vat, drum, or other waste container that is closed when not in use.

(3) Disassembled spray gun cleaning. Disassemble the spray gun and clean the components by hand in a vat, which shall remain closed at all times except when in use. Alternatively, soak the components in a vat, which shall remain closed during the soaking period and when not inserting or removing components.

(4) *Atomizing cleaning.* Clean the spray gun by forcing the cleaning solvent through the gun and direct the resulting atomized spray into a waste container that is fitted with a device designed to capture the atomized cleaning solvent emissions.

(5) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems that can be programmed to spray into a closed container, shall be exempt from the requirements of paragraph (c) of this section.

(d) *Flush cleaning.* Each owner or operator of a flush cleaning operation subject to this subpart (excluding those in which Table 1 or semi-aqueous cleaning solvents are used) shall empty the used cleaning solvent each time aerospace parts or assemblies, or components of a coating unit (with the exception of spray guns) are flush cleaned into an enclosed container or collection system that is kept closed when not in use or into a system with equivalent emission control.

(e) *Exempt cleaning operations.* The following cleaning operations are exempt from the requirements of paragraph (b) of this section:

(1) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;

(2) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);

(3) Cleaning and surface activation prior to adhesive bonding;

(4) Cleaning of electronic parts and assemblies containing electronic parts;

(5) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;

(6) Cleaning of fuel cells, fuel tanks, and confined spaces;

(7) Surface cleaning of solar cells, coated optics, and thermal control surfaces;

(8) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used in the interior of the aircraft;

(9) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;

(10) Cleaning of aircraft transparencies, polycarbonate, or glass substrates;

(11) Cleaning and cleaning solvent usage associated with research and development, quality control, and laboratory testing;

(12) Cleaning operations, using nonflamable liquids, conducted within five feet of energized electrical systems. Energized electrical systems means any AC or DC electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections; and

(13) Cleaning operations identified as essential uses under the Montreal Protocol for which the Administrator has allocated essential use allowances or exemptions in 40 CFR 82.4.

TABLE 1—COMPOSITION REQUIREMENTS FOR APPROVED CLEANING SOLVENTS

Cleaning solvent type	Composition requirements
Aqueous	Cleaning solvents in which water is the primary ingredient (≥80 percent of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzyme mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g., high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, pH buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than 93 °C (200 °F) (as reported by the manufacturer), and the solution must be miscible with water.
Hydrocarbon-based	Cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20 °C (3.75 in. H_2O and 68 °F). These cleaners also contain no HAP.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15018, Mar. 27, 1998; 63 FR 46533, Sept. 1, 1998; 68 FR 37352, June 23, 2003; 80 FR 76181, Dec. 7, 2015]

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§63.745 Standards: Primer, topcoat, and specialty coating application operations.

(a) Each owner or operator of a new or existing primer, topcoat, or specialty coating application operation subject to this subpart shall comply with the requirements specified in paragraph (c) of this section for those coatings that are uncontrolled (no control device is used to reduce organic HAP emissions from the operation), and in paragraph (d) of this section for those coatings that are controlled (organic HAP emissions from the operation are reduced by the use of a control device). Aerospace equipment that is no longer operational, intended for public display, and not easily capable of being moved is exempt from the requirements of this section.

(b) Each owner or operator shall conduct the handling and transfer of primers, topcoats, and specialty coatings to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

(c) *Uncontrolled coatings—organic HAP and VOC content levels*. Each owner or operator shall comply with the organic HAP and VOC content limits specified in paragraphs (c)(1) through (6) of this section for those coatings that are uncontrolled.

(1) Organic HAP emissions from primers shall be limited to an organic HAP content level of no more than: 540 g/L (4.5 lb/gal) of primer (less water), as applied, for general aviation rework facilities; or 650 g/L (5.4 lb/gal) of exterior primer (less water), as applied, to large commercial aircraft components (parts or assemblies) or fully assembled, large commercial aircraft at existing affected sources that produce fully assembled, large commercial aircraft; or 350 g/L (2.9 lb/gal) of primer (less water), as applied.

(2) VOC emissions from primers shall be limited to a VOC content level of no more than: 540 g/L (4.5 lb/gal) of primer (less water and exempt solvents), as applied, for general aviation rework facilities; or 650 g/L (5.4 lb/gal) of exterior primer (less water and exempt solvents), as applied, to large commercial aircraft components (parts or assemblies) or fully assembled, large commercial aircraft at existing affected sources that produce fully assembled, large commercial aircraft; or 350 g/L (2.9 lb/gal) of primer (less water and exempt solvents), as applied.

(3) Organic HAP emissions from topcoats shall be limited to an organic HAP content level of no more than: 420 g/L (3.5 lb/gal) of coating (less water) as applied or 540 g/L (4.5 lb/gal) of coating (less water) as applied for general aviation rework facilities. Organic HAP emissions from self-priming topcoats shall be limited to an organic HAP content level of no more than: 420 g/L (3.5 lb/gal) of self-priming topcoat (less water) as applied or 540 g/L (4.5 lb/gal) of self-priming topcoat (less water) as applied for general aviation rework facilities.

(4) VOC emissions from topcoats shall be limited to a VOC content level of no more than: 420 g/L (3.5 lb/gal) of coating (less water and exempt solvents) as applied or 540 g/L (4.5 lb/gal) of coating (less water and exempt solvents) as applied for general aviation rework facilities. VOC emissions from self-priming topcoats shall be limited to a VOC content level of no more than: 420 g/L (3.5 lb/gal) of self-priming topcoat (less water and exempt solvents) as applied or 540 g/L (4.5 lb/gal) of self-priming topcoat (less water) as applied for general aviation rework facilities.

(5) Organic HAP emissions from specialty coatings shall be limited to an organic HAP content level of no more than the HAP content limit specified in Table 1 of this section for each applicable specialty coating type.

(6) VOC emissions from specialty coatings shall be limited to a VOC content level of no more than the VOC content limit specified in Table 1 of this section for each applicable specialty coating type.

TABLE 1—SPECIALTY COATINGS—HAP AND VOC CONTENT LIMITS

Coating Type	HAP Limit g/L (lb/gallon)[1]	VOC Limit g/L (lb/gallon)[1]
Ablative Coating	600 (5.0)	600 (5.0)
Adhesion Promoter	890 (7.4)	890 (7.4)
Adhesive Bonding Primers: Cured at 250 °F or below	850 (7.1)	850 (7.1)
Adhesive Bonding Primers: Cured above 250 °F	1030 (8.6)	1030 (8.6)
Commercial Interior Adhesive	760 (6.3)	760 (6.3)
Cyanoacrylate Adhesive	1,020 (8.5)	1,020 (8.5)
Fuel Tank Adhesive	620 (5.2)	620 (5.2)
Nonstructural Adhesive	360 (3.0)	360 (3.0)
Rocket Motor Bonding Adhesive	890 (7.4)	890 (7.4)
Rubber-based Adhesive	850 (7.1)	850 (7.1)
Structural Autoclavable Adhesive	60 (0.5)	60 (0.5)
Structural Nonautoclavable Adhesive	850 (7.1)	850 (7.1)
Antichafe Coating	660 (5.5)	660 (5.5)
Bearing Coating	620 (5.2)	620 (5.2)
Caulking and Smoothing Compounds	850 (7.1)	850 (7.1)
Chemical Agent-Resistant Coating	550 (4.6)	550 (4.6)
Clear Coating	720 (6.0)	720 (6.0)
Commercial Exterior Aerodynamic Structure Primer	650 (5.4)	650 (5.4)
Compatible Substrate Primer	780 (6.5)	780 (6.5)
Corrosion Prevention System	710 (5.9)	710 (5.9)
Cryogenic Flexible Primer	645 (5.4)	645 (5.4)
Cryoprotective Coating	600 (5.0)	600 (5.0)

Dry Lubricative Material	880 (7.3)	880 (7.3)
Electric or Radiation-Effect Coating	800 (6.7)	800 (6.7)
Electrostatic Discharge and Electromagnetic Interference (EMI) Coating	800 (6.7)	800 (6.7)
Elevated-Temperature Skydrol-Resistant Commercial Primer	740 (6.2)	740 (6.2)
Epoxy Polyamide Topcoat	660 (5.5)	660 (5.5)
Fire-Resistant (interior) Coating	800 (6.7)	800 (6.7)
Flexible Primer	640 (5.3)	640 (5.3)
Flight-Test Coatings: Missile or Single Use Aircraft	420 (3.5)	420 (3.5)
Flight-Test Coatings: All Other	840 (7.0)	840 (7.0)
Fuel-Tank Coating	720 (6.0)	720 (6.0)
High-Temperature Coating	850 (7.1)	850 (7.1)
Insulation Covering	740 (6.2)	740 (6.2)
Intermediate Release Coating	750 (6.3)	750 (6.3)
Lacquer	830 (6.9)	830 (6.9)
Bonding Maskant	1,230 (10.3)	1,230 (10.3)
Critical Use and Line Sealer Maskant	1,020 (8.5)	1,020 (8.5)
Seal Coat Maskant	1,230 (10.3)	1,230 (10.3)
Metallized Epoxy Coating	740 (6.2)	740 (6.2)
Mold Release	780 (6.5)	780 (6.5)
Optical Anti-Reflective Coating	750 (6.3)	750 (6.3)
Part Marking Coating	850 (7.1)	850 (7.1)
Pretreatment Coating	780 (6.5)	780 (6.5)
Rain Erosion-Resistant Coating	850 (7.1)	850 (7.1)
Rocket Motor Nozzle Coating	660 (5.5)	660 (5.5)
Scale Inhibitor	880 (7.3)	880 (7.3)
Screen Print Ink	840 (7.0)	840 (7.0)
Extrudable/Rollable/Brushable Sealant	280 (2.3)	280 (2.3)
Sprayable Sealant	600 (5.0)	600 (5.0)
Silicone Insulation Material	850 (7.1)	850 (7.1)
Solid Film Lubricant	880 (7.3)	880 (7.3)
Specialized Function Coating	890 (7.4)	890 (7.4)
Temporary Protective Coating	320 (2.7)	320 (2.7)
Thermal Control Coating	800 (6.7)	800 (6.7)
Wet Fastener Installation Coating	675 (5.6)	675 (5.6)
Wing Coating	850 (7.1)	850 (7.1)

[1] Coating limits for HAP are expressed in terms of mass (grams or pounds) of HAP per volume (liters or gallons) of coating less water. Coating limits for VOC are expressed in terms of mass (grams or pounds) of VOC per volume (liters or gallons) of coating less water and less exempt solvent.

(5) Organic HAP emissions from specialty coatings shall be limited to an organic HAP content level of no more than the HAP content limit specified in Table 1 of this section for each applicable specialty coating type.

(6) VOC emissions from specialty coatings shall be limited to a VOC content level of no more than the VOC content limit specified in Table 1 of this section for each applicable specialty coating type.

TABLE 1—SPECIALTY COATINGS—HAP AND VOC CONTENT LIMITS

Coating Type	HAP Limit g/L (lb/gallon)[1]	VOC Limit g/L (lb/gallon)[1]
Ablative Coating	600 (5.0)	600 (5.0)
Adhesion Promoter	890 (7.4)	890 (7.4)
Adhesive Bonding Primers: Cured at 250 °F or below	850 (7.1)	850 (7.1)
Adhesive Bonding Primers: Cured above 250 °F	1030 (8.6)	1030 (8.6)
Commercial Interior Adhesive	760 (6.3)	760 (6.3)
Cyanoacrylate Adhesive	1,020 (8.5)	1,020 (8.5)
Fuel Tank Adhesive	620 (5.2)	620 (5.2)
Nonstructural Adhesive	360 (3.0)	360 (3.0)
Rocket Motor Bonding Adhesive	890 (7.4)	890 (7.4)
Rubber-based Adhesive	850 (7.1)	850 (7.1)
Structural Autoclavable Adhesive	60 (0.5)	60 (0.5)
Structural Nonautoclavable Adhesive	850 (7.1)	850 (7.1)
Antichafe Coating	660 (5.5)	660 (5.5)
Bearing Coating	620 (5.2)	620 (5.2)
Caulking and Smoothing Compounds	850 (7.1)	850 (7.1)
Chemical Agent-Resistant Coating	550 (4.6)	550 (4.6)
Clear Coating	720 (6.0)	720 (6.0)
Commercial Exterior Aerodynamic Structure Primer	650 (5.4)	650 (5.4)
Compatible Substrate Primer	780 (6.5)	780 (6.5)
Corrosion Prevention System	710 (5.9)	710 (5.9)
Cryogenic Flexible Primer	645 (5.4)	645 (5.4)
Cryoprotective Coating	600 (5.0)	600 (5.0)

Dry Lubricative Material	880 (7.3)	880 (7.3)
Electric or Radiation-Effect Coating	800 (6.7)	800 (6.7)
Electrostatic Discharge and Electromagnetic Interference (EMI) Coating	800 (6.7)	800 (6.7)
Elevated-Temperature Skydrol-Resistant Commercial Primer	740 (6.2)	740 (6.2)
Epoxy Polyamide Topcoat	660 (5.5)	660 (5.5)
Fire-Resistant (interior) Coating	800 (6.7)	800 (6.7)
Flexible Primer	640 (5.3)	640 (5.3)
Flight-Test Coatings: Missile or Single Use Aircraft	420 (3.5)	420 (3.5)
Flight-Test Coatings: All Other	840 (7.0)	840 (7.0)
Fuel-Tank Coating	720 (6.0)	720 (6.0)
High-Temperature Coating	850 (7.1)	850 (7.1)
Insulation Covering	740 (6.2)	740 (6.2)
Intermediate Release Coating	750 (6.3)	750 (6.3)
Lacquer	830 (6.9)	830 (6.9)
Bonding Maskant	1,230 (10.3)	1,230 (10.3)
Critical Use and Line Sealer Maskant	1,020 (8.5)	1,020 (8.5)
Seal Coat Maskant	1,230 (10.3)	1,230 (10.3)
Metallized Epoxy Coating	740 (6.2)	740 (6.2)
Mold Release	780 (6.5)	780 (6.5)
Optical Anti-Reflective Coating	750 (6.3)	750 (6.3)
Part Marking Coating	850 (7.1)	850 (7.1)
Pretreatment Coating	780 (6.5)	780 (6.5)
Rain Erosion-Resistant Coating	850 (7.1)	850 (7.1)
Rocket Motor Nozzle Coating	660 (5.5)	660 (5.5)
Scale Inhibitor	880 (7.3)	880 (7.3)
Screen Print Ink	840 (7.0)	840 (7.0)
Extrudable/Rollable/Brushable Sealant	280 (2.3)	280 (2.3)
Sprayable Sealant	600 (5.0)	600 (5.0)
Silicone Insulation Material	850 (7.1)	850 (7.1)
Solid Film Lubricant	880 (7.3)	880 (7.3)
Specialized Function Coating	890 (7.4)	890 (7.4)
Temporary Protective Coating	320 (2.7)	320 (2.7)
Thermal Control Coating	800 (6.7)	800 (6.7)
Wet Fastener Installation Coating	675 (5.6)	675 (5.6)
Wing Coating	850 (7.1)	850 (7.1)

[1] Coating limits for HAP are expressed in terms of mass (grams or pounds) of HAP per volume (liters or gallons) of coating less water. Coating limits for VOC are expressed in terms of mass (grams or pounds) of VOC per volume (liters or gallons) of coating less water and less exempt solvent.

(d) *Controlled coatings—control system requirements.* Each control system shall reduce the operation's organic HAP and VOC emissions to the atmosphere by 81% or greater, taking into account capture and destruction or removal efficiencies, as determined using the procedures in §63.750(g) when a carbon adsorber is used and in §63.750(h) when a control device other than a carbon adsorber is used.

(e) *Compliance methods*. Compliance with the organic HAP and VOC content limits specified in paragraphs (c)(1) through (6) of this section shall be accomplished by using the methods specified in paragraphs (e)(1) and (2) of this section either by themselves or in conjunction with one another.

(1) Use primers, topcoats (including self-priming topcoats), and specialty coatings with HAP and VOC content levels equal to or less than the limits specified in paragraphs (c)(1) through (6) of this section; or

(2) Use the averaging provisions described in §63.743(d).

(f) *Application equipment*. Except as provided in paragraph (f)(3) of this section, each owner or operator of a new or existing primer, topcoat (including self-priming topcoat), or specialty coating application operation subject to this subpart in which any of the coatings contain organic HAP or VOC shall comply with the requirements specified in paragraphs (f)(1) and (f)(2) of this section.

(1) All spray applied primers, topcoats (including self-priming topcoats), and specialty coatings shall be applied using one or more of the spray application techniques specified in paragraphs (f)(1)(i) through (f)(1)(v) of this section.

(i) High volume low pressure (HVLP) spraying;

(ii) Electrostatic spray application;

(iii) Airless spray application;

(iv) Air-assisted airless spray application; or

(v) Any other coating spray application methods that achieve emission reductions or a transfer efficiency equivalent to or better than HVLP spray, electrostatic spray, airless spray, or air-assisted airless spray application methods as determined according to the requirements in §63.750(i).

(2) All coating spray application devices used to apply primers, topcoats (including self-priming topcoats), or specialty coatings shall be operated according to company procedures, local specified operating procedures, and/or the manufacturer's specifications, whichever is most stringent, at all times. Spray application equipment modified by the facility shall maintain a transfer efficiency equivalent to HVLP spray, electrostatic spray, airless spray, or air-assisted airless spray application techniques.

(3) The following situations are exempt from the requirements of paragraph (f)(1) of this section:

(i) Any situation that normally requires an extension on the spray gun to properly reach limited access spaces;

(ii) The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns;

(iii) The application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.) and that the permitting agency has determined cannot be applied by any of the application methods specified in paragraph (f)(1) of this section;

(iv) The use of airbrush application methods for stenciling, lettering, and other identification markings, and the spray application of no more than 3.0 fluid ounces of coating in a single application (*i.e.*, the total volume of a single coating formulation applied during any one day to any one aerospace vehicle or component) from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). Using multiple small paint cups or refilling a small paint cup to apply more than 3.0 fluid ounces under the requirements of this paragraph is prohibited. If a paint cup liner is used in a reusable holder or cup, then the holder or cup must be designed to hold a liner with a capacity of no more than 3.0 fluid ounces. For example, a 3.0 ounce liner cannot be used in a holder that can also be used with a 6.0 ounce liner under the requirements of this paragraph;

(v) The use of hand-held non-refillable aerosol containers;

(vi) Touch-up and repair operations;

(vii) Adhesives, sealants, maskants, caulking materials, and inks; and

(viii) The application of coatings that contain less than 20 grams of VOC per liter of coating.

(g) *Inorganic HAP emissions*. Except as provided in paragraph (g)(4) of this section, each owner or operator of a new or existing primer, topcoat, or specialty coating application operation subject to this subpart in which any of the coatings that are spray-applied (as defined in §63.742) and contain inorganic HAP, shall comply with the applicable requirements in paragraphs (g)(1) through (3) of this section.

(1) Apply these coatings in a booth, hangar, or portable enclosure in which air flow is directed downward onto or across the part or assembly being coated and exhausted through one or more outlets.

(2) Control the air stream from this operation as follows:

(i) For existing sources, the owner or operator must choose one of the following:

(A) Before exhausting it to the atmosphere, pass the air stream through a dry particulate filter system certified using the methods described in §63.750(o) to meet or exceed the efficiency data points in Tables 2 and 3 of this section; or

TABLE 2—TWO-STAGE ARRESTOR; LIQUID PHASE CHALLENGE FOR EXISTING SOURCES

Filtration efficiency requirement, %	Aerodynamic particle size range, µm
>90	>5.7
>50	>4.1
>10	>2.2

TABLE 3—TWO-STAGE ARRESTOR; SOLID PHASE CHALLENGE FOR EXISTING SOURCES

Filtration efficiency requirement, %	Aerodynamic particle size range, µm
>90	>8.1
>50	>5.0
>10	>2.6

(B) Before exhausting it to the atmosphere, pass the air stream through a waterwash system that shall remain in operation during all coating application operations; or

(C) Before exhausting it to the atmosphere, pass the air stream through an air pollution control system that meets or exceeds the efficiency data points in Tables 2 and 3 of this section and is approved by the permitting authority.

(ii) For new sources, either:

(A) Before exhausting it to the atmosphere, pass the air stream through a dry particulate filter system certified using the methods described in §63.750(o) to meet or exceed the efficiency data points in Tables 4 and 5 of this section; or

TABLE 4—THREE-STAGE ARRESTOR; LIQUID PHASE CHALLENGE FOR NEW SOURCES

Filtration efficiency requirement, %	Aerodynamic particle size range, μm
>95	>2.0
>80	>1.0
>65	>0.42

TABLE 5—THREE-STAGE ARRESTOR; SOLID PHASE CHALLENGE FOR NEW SOURCES

Filtration efficiency requirement, %	Aerodynamic particle size range, μm
>95	>2.5
>85	>1.1
>75	>0.70

(B) Before exhausting it to the atmosphere, pass the air stream through an air pollution control system that meets or exceeds the efficiency data points in Tables 4 and 5 of this section and is approved by the permitting authority.

(iii) Owners or operators of new sources that have commenced construction or reconstruction after June 6, 1994 but prior to October 29, 1996 may comply with the following requirements in lieu of the requirements in paragraph (g)(2)(ii) of this section:

(A) Pass the air stream through either a two-stage dry particulate filter system or a waterwash system before exhausting it to the atmosphere.

(B) If the primer, topcoat, or specialty coating contains chromium or cadmium, control shall consist of a HEPA filter system, three-stage filter system, or other control system equivalent to the three-stage filter system as approved by the permitting agency.

(iv) If a dry particulate filter system is used, the following requirements shall be met:

(A) Maintain the system in good working order;

(B) Install a differential pressure gauge across the filter banks;

(C) Continuously monitor the pressure drop across the filter and read and record the pressure drop once per shift, or install an interlock system that will automatically shut down the coating spray application system if the pressure drop exceeds or falls below the filter manufacturer's recommended limit(s); and

(D) Take corrective action when the pressure drop exceeds or falls below the filter manufacturer's recommended limit (s).

(v) If a conventional waterwash system is used, continuously monitor the water flow rate and read and record the water flow rate once per shift, or install an interlock system that will automatically shut down the coating spray application system if the water flow rate falls below or exceeds the limit(s) specified by the booth manufacturer or in locally prepared operating procedures. If a pumpless system is used, continuously monitor the booth parameter(s) that indicate performance of the booth per the manufacturer's recommendations to maintain the booth within the acceptable operating efficiency range and read and record the parameters once per shift, or install an interlock system that will automatically shut down the coating spray application system if the booth parameters are outside the parameter range in the manufacturer's recommendations.

(3) If the pressure drop across the dry particulate filter system, as recorded pursuant to §63.752(d)(1), is outside the limit(s) specified by the filter manufacturer or in locally prepared operating procedures, shut down the operation immediately and take corrective action. If the water path in the waterwash system fails the visual continuity/flow characteristics check, or the water flow rate recorded pursuant to §63.752(d)(2) exceeds the limit(s) specified by the booth manufacturer or in locally prepared operating procedures, or the booth manufacturer's or locally prepared maintenance procedures for the filter or waterwash system have not been performed as scheduled, shut down the operation immediately and take corrective action. The operation shall not be resumed until the pressure drop or water flow rate is returned within the specified limit(s).

(4) The requirements of paragraphs (g)(1) through (g)(3) of this section do not apply to the following:

(i) Touch-up of scratched surfaces or damaged paint;

(ii) Hole daubing for fasteners;

(iii) Touch-up of trimmed edges;

(iv) Coating prior to joining dissimilar metal components;

(v) Stencil operations performed by brush or air brush;

(vi) Section joining;

(vii) Touch-up of bushings and other similar parts;

(viii) Sealant detackifying;

(ix) Spray application of primers, topcoats, and specialty coatings in an area identified in a title V permit, where the permitting authority has determined that it is not technically feasible to spray apply coatings to the parts in a booth;

(x) The use of hand-held non-refillable aerosol containers; and

(xi) The spray application of no more than 3.0 fluid ounces of coating in a single application (*i.e.*, the total volume of a single coating formulation applied during any one day to any one aerospace vehicle or component) from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces (89 cubic centimeters). Using multiple small paint cups or refilling a small paint cup to apply more than 3.0 fluid ounces under the requirements of this paragraph is prohibited. If a paint cup liner is used in a reusable holder or cup, then the holder or cup must be designed to hold a liner with a capacity of no more than 3.0 fluid ounces. For example, under the requirements of this paragraph, a 3.0 ounce liner cannot be used in a holder that can also be used with a 6.0 ounce liner.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15019, Mar. 27, 1998; 63 FR 46533, Sept. 1, 1998; 65 FR 76945, Dec. 8, 2000; 80 FR 76181, Dec. 7, 2015]

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§63.746 Standards: Depainting operations.

(a) *Applicability.* Each owner or operator of a new or existing depainting operation subject to this subpart shall comply with the requirements in paragraphs (a)(1) through (a)(3) of this section, and with the requirements specified in paragraph (b) where there are no controls for organic HAP, or paragraph (c) where organic HAP are controlled using a control system. This section does not apply to an aerospace manufacturing or rework facility that depaints six or less completed aerospace vehicles in a calendar year.

(1) The provisions of this section apply to the depainting of the outer surface areas of completed aerospace vehicles, including the fuselage, wings, and vertical and horizontal stabilizers of the aircraft, and the outer casing and stabilizers of missiles and rockets. These provisions do not apply to the depainting of parts or units normally removed from the aerospace vehicle for depainting. However, depainting of wings and stabilizers is always subject to the requirements of this section regardless of whether their removal is considered by the owner or operator to be normal practice for depainting.

(2) Aerospace vehicles or components that are intended for public display, no longer operational, and not easily capable of being moved are exempt from the requirements of this section.

(3) The following depainting operations are exempt from the requirements of this section:

(i) Depainting of radomes; and

(ii) Depainting of parts, subassemblies, and assemblies normally removed from the primary aircraft structure before depainting.

(b)(1) *HAP emissions—non-HAP chemical strippers and technologies.* Except as provided in paragraphs (b)(2) and (b)(3) of this section, each owner or operator of a new or existing aerospace depainting operation subject to this subpart shall emit no organic HAP from chemical stripping formulations and agents or chemical paint softeners.

(2) Where non-chemical based equipment is used to comply with paragraph (b)(1) of this section, either in total or in part, each owner or operator shall operate and maintain the equipment according to the manufacturer's specifications or locally prepared operating procedures. During periods of malfunctions of such equipment, each owner or operator may use substitute materials during the repair period provided the substitute materials used are those available that minimize organic HAP emissions. In no event shall substitute materials be used for more than 15 days annually, unless such materials are organic HAP-free.

(3) Each owner or operator of a new or existing depainting operation shall not, on an annual average basis, use more than 26 gallons of organic HAP-containing chemical strippers or alternatively 190 pounds of organic HAP per commercial aircraft depainted; or more than 50 gallons of organic HAP-containing chemical strippers or alternatively 365 pounds of organic HAP per military aircraft depainted for spot stripping and decal removal.

(4) Each owner or operator of a new or existing depainting operation complying with paragraph (b)(2), that generates airborne inorganic HAP emissions from dry media blasting equipment, shall also comply with the requirements specified in paragraphs (b)(4)(i) through (b)(4)(v) of this section.

(i) Perform the depainting operation in an enclosed area, unless a closed-cycle depainting system is used.

(ii)(A) For existing sources, pass any air stream removed from the enclosed area or closed-cycle depainting system through a dry particulate filter system, certified using the method described in §63.750(o) to meet or exceed the efficiency data points in Tables 2 and 3 of §63.745, through a baghouse, or through a waterwash system before exhausting it to the atmosphere.

(B) For new sources, pass any air stream removed from the enclosed area or closed-cycle depainting system through a dry particulate filter system certified using the method described in §63.750(o) to meet or exceed the efficiency data points in Tables 4 and 5 of §63.745 or through a baghouse before exhausting it to the atmosphere.

(C) Owners or operators of new sources that have commenced construction or reconstruction after June 6, 1994 but prior to October 29, 1996 may comply with the following requirements in lieu of the requirements in paragraph (b)(4)(ii)(B) of this section:

(*1*) Pass the air stream through either a two-stage dry particulate filter system or a waterwash system before exhausting it to the atmosphere.

(*2*) If the coating being removed contains chromium or cadmium, control shall consist of a HEPA filter system, three-stage filter system, or other control system equivalent to the three-stage filter system as approved by the permitting agency.

(iii) If a dry particulate filter system is used, the following requirements shall be met:

(A) Maintain the system in good working order;

(B) Install a differential pressure gauge across the filter banks;

(C) Continuously monitor the pressure drop across the filter, and read and record the pressure drop once per shift; and

(D) Take corrective action when the pressure drop exceeds or falls below the filter manufacturer's recommended limits.

(iv) If a waterwash system is used, continuously monitor the water flow rate, and read and record the water flow rate once per shift.

(v) If the pressure drop, as recorded pursuant to §63.752(e)(7), is outside the limit(s) specified by the filter manufacturer or in locally prepared operating procedures, whichever is more stringent, shut down the operation immediately and take corrective action. If the water path in the waterwash system fails the visual continuity/flow characteristics check, as recorded pursuant to §63.752(e)(7), or the water flow rate, as recorded pursuant to §63.752(d)(2), exceeds the limit(s) specified by the booth manufacturer or in locally prepared operating procedures, or the booth manufacturer's or locally prepared maintenance procedures for the filter or waterwash system have not been performed as scheduled, shut down the operation immediately and take corrective action. The operation shall not be resumed until the pressure drop or water flow rate is returned within the specified limit(s).

(5) Mechanical and hand sanding operations are exempt from the requirements in paragraph (b)(4) of this section.

(c) *Organic HAP emissions—organic HAP-containing chemical strippers.* Each owner or operator of a new or existing organic HAP-containing chemical stripper depainting operation subject to this subpart shall comply with the requirements specified in this paragraph.

(1) All organic HAP emissions from the operation shall be reduced by the use of a control system. Each control system that was installed before the effective date shall reduce the operations' organic HAP emissions to the atmosphere by 81 percent or greater, taking into account capture and destruction or removal efficiencies.

(2) Each control system installed on or after the effective date shall reduce organic HAP emissions to the atmosphere by 95 percent or greater. Reduction shall take into account capture and destruction or removal efficiencies, and may take into account the volume of chemical stripper used relative to baseline levels (e.g., the 95 percent efficiency may be achieved by controlling emissions at 81 percent efficiency with a control system and using 74 percent less stripper than in

baseline applications). The baseline shall be calculated using data from 1996 and 1997, which shall be on a usage per aircraft or usage per square foot of surface basis.

(3) The capture and destruction or removal efficiencies are to be determined using the procedures in §63.750(g) when a carbon adsorber is used and those in §63.750(h) when a control device other than a carbon adsorber is used.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15020, Mar. 27, 1998; 63 FR 46533, Sept. 1, 1998; 80 FR 76184, Dec. 7, 2015]

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§63.747 Standards: Chemical milling maskant application operations.

(a) Each owner or operator of a new or existing chemical milling maskant operation subject to this subpart shall comply with the requirements specified in paragraph (c) of this section for those chemical milling maskants that are uncontrolled (no control device is used to reduce organic HAP emissions from the operation) and in paragraph (d) of this section for those chemical milling maskants that are controlled (organic HAP emissions from the operation are reduced by the use of a control device).

(b) Each owner or operator shall conduct the handling and transfer of chemical milling maskants to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

(c) *Uncontrolled maskants—organic HAP and VOC content levels.* Each owner or operator shall comply with the organic HAP and VOC content limits specified in paragraphs (c)(1) and (c)(2) of this section for each chemical milling maskant that is uncontrolled.

(1) Organic HAP emissions from chemical milling maskants shall be limited to organic HAP content levels of no more than 622 grams of organic HAP per liter (5.2 lb/gal) of Type I chemical milling maskant (less water) as applied, and no more than 160 grams of organic HAP per liter (1.3 lb/gal) of Type II chemical milling maskant (less water) as applied.

(2) VOC emissions from chemical milling maskants shall be limited to VOC content levels of no more than 622 grams of VOC per liter (5.2 lb/gal) of Type I chemical milling maskant (less water and exempt solvents) as applied, and no more than 160 grams of VOC per liter (1.3 lb/gal) of Type II chemical milling maskant (less water and exempt solvents) as applied.

(3) The requirements of paragraphs (c)(1) and (c)(2) of this section do not apply to the following:

(i) Touch-up of scratched surfaces or damaged maskant; and

(ii) Touch-up of trimmed edges.

(d) *Controlled maskants—control system requirements.* Each control system shall reduce the operation's organic HAP and VOC emissions to the atmosphere by 81% or greater, taking into account capture and destruction or removal efficiencies, as determined using the procedures in §63.750(g) when a carbon adsorber is used and in §63.750(h) when a control device other than a carbon adsorber is used.

(e) *Compliance methods.* Compliance with the organic HAP and VOC content limits specified in paragraphs (c)(1) and (c)(2) of this section may be accomplished by using the methods specified in paragraphs (e)(1) and (e)(2) of this section either by themselves or in conjunction with one another.

(1) Use chemical milling maskants with HAP and VOC content levels equal to or less than the limits specified in paragraphs (c)(1) and (c)(2) of this section.

(2) Use the averaging provisions described in §63.743(d).

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15021, Mar. 27, 1998]

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§63.748 Standards: Handling and storage of waste.

(a) The owner or operator of each facility subject to this subpart that produces a waste that contains organic HAP from aerospace primer, topcoat, specialty coating, chemical milling maskant, or chemical depainting operations must be handled and stored as specified in paragraph (a)(1) or (a)(2) of this section. The requirements of paragraphs (a)(1) and (a)(2) of this section do not apply to spent wastes that contain organic HAP that are subject to and handled and stored in compliance with 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC).

(1) Conduct the handling and transfer of the waste to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

(2) Store all waste that contains organic HAP in closed containers.

(b) [Reserved]

[80 FR 76184, Dec. 7, 2015]

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§63.749 Compliance dates and determinations.

Link to an amendment published at 81 FR 51116, Aug. 3, 2016.

(a) *Compliance dates*. (1) Each owner or operator of an existing affected source subject to this subpart shall comply with the requirements of this subpart by September 1, 1998, except as specified in paragraphs (a)(2) and (3) of this section. Owners or operators of new affected sources subject to this subpart shall comply on the effective date or upon startup, whichever is later. In addition, each owner or operator shall comply with the compliance dates specified in §63.6 (b) and (c) as indicated in Table 1 to this subpart.

(2) Owners or operators of existing primer, topcoat, or specialty coating application operations and depainting operations who construct or reconstruct a spray booth or hangar must comply with the new source requirements for inorganic HAP specified in §§63.745(g)(2)(ii) and 63.746(b)(4) for that new spray booth or hangar upon startup. Such sources must still comply with all other existing source requirements by September 1, 1998.

(3) Each owner or operator of a specialty coating application operation that begins construction or reconstruction after February 17, 2015 shall be in compliance with the requirements of this subpart on December 7, 2015 or upon startup, whichever is later. Each owner or operator of a specialty coating application operation that is existing on February 17, 2015 shall be in compliance with the requirements of this subpart on or before December 7, 2018.

(b) *General*. Each facility subject to this subpart shall be considered in noncompliance if the owner or operator uses a control device, other than one specified in this subpart, that has not been approved by the Administrator, as required by §63.743(c).

(c) *Cleaning operations.* Each cleaning operation subject to this subpart shall be considered in noncompliance if the owner or operator fails to institute and carry out the housekeeping measures required under §63.744(a). Incidental emissions resulting from the activation of pressure release vents and valves on enclosed cleaning systems are exempt from this paragraph.

(1) *Hand-wipe cleaning.* An affected hand-wipe cleaning operation shall be considered in compliance when all hand-wipe cleaning solvents, excluding those used for hand cleaning of spray gun equipment under §63.744(c)(3), meet either the composition requirements specified in §63.744(b)(1) or the vapor pressure requirement specified in §63.744(b)(2).

(2) *Spray gun cleaning.* An affected spray gun cleaning operation shall be considered in compliance when each of the following conditions is met:

(i) One of the four techniques specified in §63.744 (c)(1) through (c)(4) is used;

(ii) The technique selected is operated according to the procedures specified in §63.744 (c)(1) through (c)(4) as appropriate; and

(iii) If an enclosed system is used, monthly visual inspections are conducted and any leak detected is repaired within 15 days after detection. If the leak is not repaired by the 15th day after detection, the solvent shall be removed and the enclosed cleaner shall be shut down until the cleaner is repaired or its use is permanently discontinued.

(3) *Flush cleaning.* An affected flush cleaning operation shall be considered in compliance if the operating requirements specified in §63.744(d) are implemented and carried out.

(d) *Organic HAP and VOC content levels—primer, topcoat, and specialty coating application operations*—(1) *Performance test periods.* For uncontrolled coatings that are not averaged, each 24 hours is considered a performance test. For compliant and non-compliant coatings that are averaged together, each 30-day period is considered a performance test, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program. When using a control device other than a carbon adsorber, three 1-hour runs constitute the test period for the initial and any subsequent performance test. When using a carbon adsorber, each rolling material balance period is considered a performance test.

(2) *Initial performance tests.* If a control device is used, each owner or operator shall conduct an initial performance test to demonstrate compliance with the overall reduction efficiency specified in paragraph §63.745, unless a waiver is obtained under either §63.7(e)(2)(iv) or §63.7(h). The initial performance test shall be conducted according to the procedures and test methods specified in §§63.7 and 63.750(g) for carbon adsorbers and in §63.750(h) for control devices other than carbon adsorbers. For carbon adsorbers, the initial performance test shall be used to establish the appropriate rolling material balance period for determining compliance. The procedures in paragraphs (d)(2)(i) through (d)(2)(vi) of this section shall be used in determining initial compliance with the provisions of this subpart for carbon adsorbers.

(i)(A) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all the individual carbon adsorber vessels pursuant to §63.750(g) (2) or (4), the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all of the individual carbon adsorber vessels.

(B) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel pursuant to §63.750(g) (3) or (4), each carbon adsorber vessel shall be tested individually. The test for each carbon adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(ii) EPA Method 1 or 1A of appendix A of part 60 is used for sample and velocity traverses.

(iii) EPA Method 2, 2A, 2C, or 2D of appendix A of part 60 is used for velocity and volumetric flow rates.

(iv) EPA Method 3 of appendix A of part 60 is used for gas analysis.

(v) EPA Method 4 of appendix A of part 60 is used for stack gas moisture.

(vi) EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test period.

(3) The primer application operation is considered in compliance when the conditions specified in paragraphs (d)(3)(i) through (d)(3)(iv) of this section, as applicable, and in paragraph (e) of this section are met. Failure to meet any one of the conditions identified in these paragraphs shall constitute noncompliance. The compliance demonstration for a primer may be based on the organic HAP content or the VOC content of the primer; demonstrating compliance with both the HAP content limit and the VOC content limit is not required. If a primer contains HAP solvents that are exempt from the definition of VOC in §63.741 and 40 CFR 51.100, then the HAP content must be used to demonstrate compliance.

(i) For all uncontrolled primers, all values of H_i and H_a (as determined using the procedures specified in §63.750(c) and (d)) are less than or equal to the applicable HAP content limit in §63.745(c)(1), and all values of G_i and G_a (as determined using the procedures specified in §63.750(e) and (f)) are less than or equal to the applicable VOC content limit in §63.745(c)(2).

(ii) If a control device is used:

(A) The overall control system efficiency, E_k, as determined using the procedures specified in §63.750(g) for control systems containing carbon adsorbers and in §63.750(h) for control systems with other control devices, is equal to or greater than 81% during the initial performance test and any subsequent performance test;

(B) If an incinerator other than a catalytic incinerator is used, the average combustion temperature for all 3-hour periods is greater than or equal to the average combustion temperature established under §63.751(b)(11); and

(C) If a catalytic incinerator is used, the average combustion temperatures for all 3-hour periods are greater than or equal to the average combustion temperatures established under §63.751(b)(12).

(iii)(A) Uses an application technique specified in §63.745 (f)(1)(i) through (f)(1)(viii), or

(B) Uses an alternative application technique, as allowed under §63.745(f)(1)(ix), such that the emissions of both organic HAP and VOC for the implementation period of the alternative application method are less than or equal to the emissions generated using HVLP or electrostatic spray application methods as determined using the procedures specified in §63.750(i).

(iv) Operates all application techniques in accordance with the manufacturer's specifications or locally prepared operating procedures, whichever is more stringent.

(4) The topcoat or specialty coating application operation is considered in compliance when the conditions specified in paragraphs (d)(4)(i) through (d)(4)(iv) of this section, as applicable, and in paragraph (e) of this section are met. Failure to meet any of the conditions identified in these paragraphs shall constitute noncompliance.

(i) The topcoat application operation is considered in compliance when the conditions specified in paragraph (d)(4)(i)(A) of this section are met. The specialty coating application operation is considered in compliance when the conditions specified in paragraph (d)(4)(i)(B) are met. The compliance demonstration for a topcoat or a specialty coating may be based on the organic HAP content or the VOC content of the coating; demonstrating compliance with both the HAP content limit and the VOC content limit is not required. If a topcoat or specialty coating contains HAP solvents that are exempt from the definition of VOC in §63.741 and 40 CFR 51.100, then the HAP content must be used to demonstrate compliance.

(A) For all uncontrolled topcoats, all values of H_i and H_a (as determined using the procedures specified in §63.750(c) and (d)) are less than or equal to the applicable HAP content limit in §63.745(c)(3), and all values of G_i and G_a (as determined using the procedures specified in §63.750(e) and (f)) are less than or equal to the applicable VOC content limit in §63.745(c)(4).

(B) For all uncontrolled specialty coatings, all values of H_i and H_a (as determined using the procedures specified in §63.750(c) and (d)) are less than or equal to the HAP content limits specified in Table 1 to §63.745 for the applicable specialty coating types (less water) as applied, and all values of G_i and G_a (as determined using the procedures specified in §63.750(e) and (f)) are less than or equal to the VOC content limits specified in Table 1 to §63.745 for the applicable specialty coating types (less water and exempt solvents) as applied.

(ii) If a control device is used,

(A) The overall control system efficiency, E_k, as determined using the procedures specified in §63.750(g) for control systems containing carbon adsorbers and in §63.750(h) for control systems with other control devices, is equal to or greater than 81% during the initial performance test and any subsequent performance test;

(B) If an incinerator other than a catalytic incinerator is used, the average combustion temperature for all 3-hour periods is greater than or equal to the average combustion temperature established under §63.751(b)(11); and

(C) If a catalytic incinerator is used, the average combustion temperatures for all 3-hour periods are greater than or equal to the average combustion temperatures established under §63.751(b)(12).

(iii)(A) Uses an application technique specified in §63.745(f)(1)(i) through (f)(1)(iv); or

(B) Uses an alternative application technique, as allowed under §63.745(f)(1)(v), such that the emissions of both organic HAP and VOC for the implementation period of the alternative application method are less than or equal to the emissions generated using HVLP spray, electrostatic spray, airless spray, or air-assisted airless spray application methods, as determined using the procedures specified in §63.750(i).

(iv) Operates all application techniques in accordance with the manufacturer's specifications or locally prepared operating procedures.

(e) *Inorganic HAP emissions—primer, topcoat, and specialty coating application operations.* For each primer, topcoat, or specialty coating application operation that emits inorganic HAP, the operation is in compliance when:

(1) It is operated according to the requirements specified in §63.745(g)(1) through (g)(3); and

(2) It is shut down immediately whenever the pressure drop or water flow rate is outside the limit(s) established for them and is not restarted until the pressure drop or water flow rate is returned within these limit(s), as required under §63.745(g)(3).

(f) *Organic HAP emissions—Depainting operations*—(1) *Performance test periods.* When using a control device other than a carbon adsorber, three 1-hour runs constitute the test period for the initial and any subsequent performance test. When a carbon adsorber is used, each rolling material balance period is considered a performance test. Each 24-hour period is considered a performance test period for determining compliance with §63.746(b)(1). For uncontrolled organic emissions from depainting operations, each calendar year is considered a performance test period for determining compliance with the HAP limits for organic HAP-containing chemical strippers used for spot stripping and decal removal.

(2) *Initial performance tests.* If a control device is used, each owner or operator shall conduct an initial performance test to demonstrate compliance with the overall reduction efficiency specified in §63.746(c), unless a waiver is obtained under either §63.7(e)(2)(iv) or §63.7(h). The initial performance test shall be conducted according to the procedures and test methods specified in §§63.7 and 63.750(g) for carbon adsorbers and in §63.750(h) for control devices other than carbon adsorbers. For carbon adsorbers, the initial performance test shall be used to establish the appropriate rolling material balance period for determining compliance. The procedures in paragraphs (2)(i) through (2)(vi) of this section shall be used in determining initial compliance with the provisions of this subpart for carbon adsorbers.

(i)(A) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all the individual carbon adsorber vessels pursuant to §63.750(g)(2) or (4), the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all of the individual carbon adsorber vessels.

(B) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel pursuant to §63.750(g) (3) or (4), each carbon adsorber vessel shall be tested individually. The test for each carbon adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(ii) EPA Method 1 or 1A of appendix A of part 60 is used for sample and velocity traverses.

(iii) EPA Method 2, 2A, 2C, or 2D of appendix A of part 60 is used for velocity and volumetric flow rates.

(iv) EPA Method 3 of appendix A of part 60 is used for gas analysis.

(v) EPA Method 4 of appendix A of part 60 is used for stack gas moisture.

(vi) EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test period.

(3) An organic HAP-containing chemical stripper depainting operation is considered in compliance when the conditions specified in paragraph (g)(3)(i) of this section are met.

(i) If a carbon adsorber (or other control device) is used, the overall control efficiency of the control system, as determined using the procedures specified in §63.750(g) (or other control device as determined using the procedures specified in §63.750(h)), is equal to or greater than 81% for control systems installed before the effective date, or equal to or greater than 95% for control systems installed on or after the effective date, during the initial performance test and all subsequent material balances (or performance tests, as appropriate).

(ii) For non-HAP depainting operations complying with §63.746(b)(1);

(A) For any spot stripping and decal removal, the value of C, as determined using the procedures specified in §63.750 (j), is less than or equal to 26 gallons of organic HAP-containing chemical stripper or 190 pounds of organic HAP per commercial aircraft depainted calculated on a yearly average; and is less than or equal to 50 gallons of organic HAP-containing chemical stripper or 365 pounds of organic HAP per military aircraft depainted calculated on a yearly average; and

(B) The requirements of §63.746(b)(2) are carried out during malfunctions of non-chemical based equipment.

(g) *Inorganic HAP emissions—depainting operations.* Each depainting operation is in compliance when:

(1) The operating requirements specified in §63.746(b)(4) are followed; and

(2) It is shut down immediately whenever the pressure drop or water flow rate is outside the limit(s) established for them and is not restarted until the pressure drop or water flow rate is returned within these limit(s), as required under §63.746(b)(4)(v).

(h) *Chemical milling maskant application operations*—(1) *Performance test periods.* For uncontrolled chemical milling maskants that are not averaged, each 24-hour period is considered a performance test. For compliant and noncompliant chemical milling maskants that are averaged together, each 30-day period is considered a performance test, unless the permitting agency specifies a shorter period as part of an ambient ozone control program. When using a control device other than a carbon adsorber, three 1-hour runs constitute the test period for the initial and any subsequent performance test. When a carbon adsorber is used, each rolling material balance period is considered a performance test.

(2) *Initial performance tests.* If a control device is used, each owner or operator shall conduct an initial performance test to demonstrate compliance with the overall reduction efficiency specified in §63.747(d), unless a waiver is obtained under either §63.7(e)(2)(iv) or §63.7(h). The initial performance test shall be conducted according to the procedures and test methods specified in §63.7 and §63.750(g) for carbon adsorbers and in §63.750(h) for control devices other than carbon adsorbers. For carbon adsorbers, the initial performance test shall be used to establish the appropriate rolling material balance period for determining compliance. The procedures in paragraphs (h)(2) (i) through (vi) of this section shall be used in determining initial compliance with the provisions of this subpart for carbon adsorbers.

(i)(A) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all the individual carbon adsorber vessels pursuant to §63.750(g) (2) or (4), the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all of the individual carbon adsorber vessels.

(B) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel pursuant to §63.750(g) (3) or (4), each carbon adsorber vessel shall be tested individually. The test for each carbon adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(ii) EPA Method 1 or 1A of appendix A of part 60 is used for sample and velocity traverses.

(iii) EPA Method 2, 2A, 2C, or 2D of appendix A of part 60 is used for velocity and volumetric flow rates.

(iv) EPA Method 3 of appendix A of part 60 is used for gas analysis.

(v) EPA Method 4 of appendix A of part 60 is used for stack gas moisture.

(vi) EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test period.

(3) The chemical milling maskant application operation is considered in compliance when the conditions specified in paragraphs (i)(3)(i) and (ii) of this section are met. The compliance demonstration for a chemical milling maskant may be based on the organic HAP content or the VOC content of the chemical milling maskant; demonstrating compliance with both the HAP content limit and the VOC content limit is not required. If a chemical milling maskant contains HAP solvents that are exempt from the definition of VOC in §63.741 and 40 CFR 51.100, then the HAP content must be used to demonstrate compliance.

(i) For all uncontrolled chemical milling maskants, all values of H_i and H_a (as determined using the procedures specified in §63.750 (k) and (l)) are less than or equal to 622 grams of organic HAP per liter (5.2 lb/gal) of Type I chemical milling maskant as applied (less water), and 160 grams of organic HAP per liter (1.3 lb/gal) of Type II chemical milling maskant as applied (less water). All values of G_i and G_a (as determined using the procedures specified in §63.750 (m) and (n)) are less than or equal to 622 grams of VOC per liter (5.2 lb/gal) of Type I chemical milling maskant as applied (less water and exempt solvents), and 160 grams of VOC per liter (1.3 lb/gal) of Type II chemical milling maskant (less water and exempt solvents) as applied.

(ii) If a carbon adsorber (or other control device) is used, the overall control efficiency of the control system, as determined using the procedures specified in §63.750(g) (or systems with other control devices as determined using the procedures specified in §63.750(h)), is equal to or greater than 81% during the initial performance test period and all subsequent material balances (or performance tests, as appropriate).

(i) *Handling and storage of waste.* For those wastes subject to this subpart, failure to comply with the requirements specified in §63.748 shall be considered a violation.

(j) Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown unless specified by the Administrator or an applicable subpart. The owner or operator may not conduct performance tests during periods of malfunction. The owner or operator must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15021, Mar. 27, 1998; 80 FR 76184, Dec. 7, 2015]

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§63.750 Test methods and procedures.

(a) *Composition determination.* Compliance with the hand-wipe cleaning solvent approved composition list specified in §63.744(b)(1) for hand-wipe cleaning solvents shall be demonstrated using data supplied by the manufacturer of the cleaning solvent. The data shall identify all components of the cleaning solvent and shall demonstrate that one of the approved composition definitions is met.

(b) *Vapor pressure determination.* The composite vapor pressure of hand-wipe cleaning solvents used in a cleaning operation subject to this subpart shall be determined as follows:

(1) For single-component hand-wipe cleaning solvents, the vapor pressure shall be determined using MSDS or other manufacturer's data, standard engineering reference texts, or other equivalent methods.

(2) The composite vapor pressure of a blended hand-wipe solvent shall be determined by quantifying the amount of each organic compound in the blend using manufacturer's supplied data or a gas chromatographic analysis in accordance with ASTM E 260-91 or 96 (incorporated by reference—see §63.14 of subpart A of this part) and by calculating the composite vapor pressure of the solvent by summing the partial pressures of each component. The vapor pressure of each component shall be determined using manufacturer's data, standard engineering reference texts, or other equivalent methods. The following equation shall be used to determine the composite vapor pressure:

$$PP_c = \sum_{i=1}^{n} \frac{(W_i)(VP_i)/MW_i}{\frac{W_w}{MW_w} + \sum_{e=1}^{n} \frac{W_e}{MW_e} + \sum_{i=1}^{n} \frac{W_i}{MW_i}}$$

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where:

W_i = Weight of the “i”th VOC compound, grams.

W_w = Weight of water, grams.

W_e = Weight of non-HAP, nonVOC compound, grams.

MW_i = Molecular weight of the “i”th VOC compound, g/g-mole.

MW_w = Molecular weight of water, g/g-mole.

MW_e = Molecular weight of exempt compound, g/g-mole.

PP_c = VOC composite partial pressure at 20 °C, mm Hg.

VP_i = Vapor pressure of the “i”th VOC compound at 20 °C, mm Hg.

(c) *Organic HAP content level determination—compliant primers, topcoats, and specialty coatings.* For those uncontrolled primers, topcoats, and specialty coatings complying with the primer, topcoat, or specialty coating organic HAP content limits specified in §63.745(c) without being averaged, the procedures in paragraphs (c)(1) through (3) of this section shall be used to determine the mass of organic HAP emitted per volume of coating (less water) as applied. As an alternative to the procedures in paragraphs (c)(1) through (3) of this section, an owner or operator may use the coating manufacturer's supplied data to demonstrate that organic HAP emitted per volume of coating (less water), as applied, is less than or equal to the applicable organic HAP limit specified in §63.745(c). Owners and operators that use the coating manufacturer's supplied data to demonstrate compliance based on the HAP content of the coating may add non-HAP solvent to those coatings provided that the owner or operator also maintains records of the non-HAP solvent added to the coating.

(1) For coatings that contain no exempt solvents, determine the total organic HAP content using manufacturer's supplied data or Method 24 of 40 CFR part 60, appendix A, to determine the VOC content. The VOC content shall be used as a surrogate for total HAP content for coatings that contain no exempt solvent. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24 analysis, compliance shall be based on the results from the Method 24 analysis.

When Method 24 is used to determine the VOC content of water-reducible coatings, the precision adjustment factors in Reference Method 24 shall be used. If the adjusted analytical VOC content is less than the formulation solvent content, then the analytical VOC content should be set equal to the formulation solvent content.

(2) For each coating formulation as applied, determine the organic HAP weight fraction, water weight fraction (if applicable), and density from manufacturer's data. If the value for organic HAP weight fraction cannot be determined using the manufacturer's data, the owner or operator shall use Method 311 of 40 CFR part 63, appendix A, or submit an alternative procedure for determining the value for approval by the Administrator. If the values for water weight fraction (if applicable) and density cannot be determined using the manufacturer's data, the owner or operator shall submit an alternative procedure for determining their values for approval by the Administrator. Recalculation is required only when a change occurs in the coating formulation. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 311 analysis, compliance shall be based on the results from the Method 311 analysis.

(3) For each coating as applied, calculate the mass of organic HAP emitted per volume of coating (lb/gal) less water as applied using equations 1, 2, and 3:

$$V_{wi} = \frac{D_{ci} W_{wi}}{D_w} \qquad Eq.\ 1$$

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where:

V_{wi} = volume (gal) of water in one gal of coating i.

D_{ci} = density (lb of coating per gal of coating) of coating i.

W_{wi} = weight fraction (expressed as a decimal) of water in coating i.

D_w = density of water, 8.33 lb/gal.

$$M_{Hi} = D_{ci} W_{Hi} \qquad Eq.\ 2$$

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where:

M_{Hi} = mass (lb) of organic HAP in one gal of coating i.

D_{ci} = density (lb of coating per gal of coating) of coating i.

W_{Hi} = weight fraction (expressed as a decimal) of organic HAP in coating i.

$$H_i = \frac{M_{Hi}}{(1 - V_{wi})} \qquad Eq.\ 3$$

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where:

H_i = mass of organic HAP emitted per volume of coating i (lb/gal) less water as applied.

M_{Hi} = mass (lb) of organic HAP in one gal of coating i.

V_{wi} = volume (gal) of water in one gal of coating i.

(d) *Organic HAP content level determination—averaged primers, topcoats, and specialty coatings.* For those uncontrolled primers, topcoats, and specialty coatings that are averaged together in order to comply with the primer, topcoat, and specialty coating organic HAP content limits specified in §63.745(c), the following procedure shall be used to determine the monthly volume-weighted average mass of organic HAP emitted per volume of coating (less water) as applied, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(1)(i) Determine the total organic HAP weight fraction as applied of each coating. If any ingredients, including diluent solvent, are added to a coating prior to its application, the organic HAP weight fraction of the coating shall be determined at a time and location in the process after all ingredients have been added.

(ii) Determine the total organic HAP weight fraction of each coating as applied each month.

(A) If no changes have been made to a coating, either as supplied or as applied, or if a change has been made that has a minimal effect on the organic HAP content of the coating, the value previously determined may continue to be used until a change in formulation has been made by either the manufacturer or the user.

(B) If a change in formulation or a change in the ingredients added to the coating takes place, including the ratio of coating to diluent solvent, prior to its application, either of which results in a more than minimal effect on the organic HAP content of the coating, the total organic HAP weight fraction of the coating shall be redetermined.

(iii) Manufacturer's formulation data may be used to determine the total organic HAP content of each coating and any ingredients added to the coating prior to its application. If the total organic HAP content cannot be determined using the manufacturer's data, the owner or operator shall use Method 311 of 40 CFR part 63, appendix A for determining the total organic HAP weight fraction, or shall submit an alternative procedure for determining the total organic HAP weight fraction for approval by the Administrator. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 311 analysis, compliance shall be based on the results from the Method 311 analysis.

(2)(i) Determine the volume both in total gallons as applied and in total gallons (less water) as applied of each coating. If any ingredients, including diluent solvents, are added prior to its application, the volume of each coating shall be determined at a time and location in the process after all ingredients (including any diluent solvent) have been added.

(ii) Determine the volume of each coating (less water) as applied each month, unless the permitting agency specifies a shorter period as part of an ambient ozone control program.

(iii) The volume applied may be determined from company records.

(3)(i) Determine the density of each coating as applied. If any ingredients, including diluent solvent, are added to a coating prior to its application, the density of the coating shall be determined at a time and location in the process after all ingredients have been added.

(ii) Determine the density of each coating as applied each month, unless the permitting agency specifies a shorter period as part of an ambient ozone control program.

(A) If no changes have been made to a coating, either as supplied or as applied, or if a change has been made that has a minimal effect on the density of the coating, then the value previously determined may continue to be used until a change in formulation has been made by either the manufacturer or the user.

(B) If a change in formulation or a change in the ingredients added to the coating takes place, including the ratio of coating to diluent solvent, prior to its application, either of which results in a more than minimal effect on the density of the coating, then the density of the coating shall be redetermined.

(iii) The density may be determined from company records, including manufacturer's data sheets. If the density of the coating cannot be determined using the company's records, including the manufacturer's data, then the owner or operator shall submit an alternative procedure for determining the density for approval by the Administrator.

(4) Calculate the total volume in gallons as applied (less water) by summing the individual volumes of each coating (less water) as applied, which were determined under paragraph (d)(2) of this section.

(5) Calculate the volume-weighted average mass of organic HAP in coatings emitted per unit volume (lb/gal) of coating (less water) as applied during each 30-day period using equation 4:

$$H_a = \frac{\sum_{i=1}^{n} W_{Hi} D_a V_a}{C_{hw}} \qquad Eq.\ 4$$

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where:

H_a = volume-weighted average mass of organic HAP emitted per unit volume of coating (lb/gal) (less water) as applied during each 30-day period for those coatings being averaged.

n = number of coatings being averaged.

W_{Hi} = weight fraction (expressed as a decimal) of organic HAP in coating i as applied that is being averaged during each 30-day period.

D_{ci} = density (lb of coating per gal of coating) of coating i as applied that is being averaged during each 30-day period.

V_{ci} = volume (gal) of coating i as applied that is being averaged during the 30-day period.

C_{lw} = total volume (gal) of all coatings (less water) as applied that are being averaged during each 30-day period.

(e) *VOC content level determination—compliant primers, topcoats, and specialty coatings.* For those uncontrolled primers, topcoats, and specialty coatings complying with the primer, topcoat, and specialty coating VOC content levels specified in §63.745(c) without being averaged, the procedures in paragraphs (e)(1) through (3) of this section shall be used to determine the mass of VOC emitted per volume of coating (less water and exempt solvents) as applied. As an alternative to the procedures in paragraphs (e)(1) through (3) of this section, an owner or operator may use coating manufacturer's supplied data to demonstrate that VOC emitted per volume of coating (less water and exempt solvents), as applied, is less than or equal to the applicable VOC limit specified in §63.745(c).

(1) Determine the VOC content of each formulation (less water and exempt solvents) as applied using manufacturer's supplied data or Method 24 of 40 CFR part 60, appendix A, to determine the VOC content. The VOC content shall be used as a surrogate for total HAP content for coatings that contain no exempt solvent. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24 analysis, compliance shall be based on the results from the Method 24 analysis.

When Method 24 is used to determine the VOC content of water-reducible coatings, the precision adjustment factors in Reference Method 24 shall be used. If the adjusted analytical VOC content is less than the formulation solvent content, then the analytical VOC content should be set equal to the formulation solvent content.

(2) For each coating applied, calculate the mass of VOC emitted per volume of coating (lb/gal) (less water and exempt solvents) as applied using equations 5, 6, and 7:

$$V_{wi} = \frac{D_{ci} W_{wi}}{D_w} \qquad Eq.\ 5$$

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where:

V_{wi} = volume (gal) of water in one gal of coating i.

D_{ci} = density (lb of coating per gal of coating) of coating i.

W_{wi} = weight fraction (expressed as a decimal) of water in coating i.

D_w = density of water, 8.33 lb/gal.

$$M_{Vi} = D_{ci} W_{Vi} \qquad Eq.\ 6$$

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where:

M_{Vi} = mass (lb) of VOC in one gal of coating i.

D_{ci} = density (lb of coating per gal of coating) of coating i.

W_{Vi} = weight fraction (expressed as a decimal) of VOC in coating i.

$$G_i = \frac{M_{vi}}{(1 - V_{wi}) - V_{xi}} \qquad Eq.\ 7$$

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where:

G_i = mass of VOC emitted per volume of coating i (lb/gal) (less water and exempt solvents) as applied.

M_{Vi} = mass (lb) of VOC in one gal of coating i.

V_{wi} = volume (gal) of water in one gal of coating i.

V_{Xi} = volume (gal) of exempt solvents in one gal of coating i.

(3)(i) If the VOC content is found to be different when EPA Method 24 is used during an enforcement inspection from that used by the owner or operator in calculating G_a, compliance shall be based, except as provided in paragraph (e)(3)(ii) of this section, upon the VOC content obtained using EPA Method 24.

(ii) If the VOC content of a coating obtained using Method 24 would indicate noncompliance as determined under either §63.749 (d)(3)(i) or (d)(4)(i), an owner or operator may elect to average the coating with other uncontrolled coatings and (re)calculate G_i (using the procedure specified in paragraph (f) of this section), provided appropriate and sufficient records were maintained for all coatings included in the average (re)calculation. The (re)calculated value of G_i (G_a in paragraph (f)) for the averaged coatings shall then be used to determine compliance.

(f) *VOC content level determination—averaged primers, topcoats, and specialty coatings*. For those uncontrolled primers, topcoats, and specialty coatings that are averaged within their respective coating category in order to comply with the primer, topcoat, and specialty coating VOC content limits specified in §63.745(c)(2), (c)(4), and (c)(6), the following procedure shall be used to determine the monthly volume-weighted average mass of VOC emitted per volume of coating (less water and exempt solvents) as applied, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(1)(i) Determine the VOC content (lb/gal) as applied of each coating. If any ingredients, including diluent solvent, are added to a coating prior to its application, the VOC content of the coating shall be determined at a time and location in the process after all ingredients have been added.

(ii) Determine the VOC content of each coating as applied each month, unless the permitting agency specifies a shorter period as part of an ambient ozone control program.

(A) If no changes have been made to a coating, either as supplied or as applied, or if a change has been made that has a minimal effect on the VOC content of the coating, the value previously determined may continue to be used until a change in formulation has been made by either the manufacturer or the user.

(B) If a change in formulation or a change in the ingredients added to the coating takes place, including the ratio of coating to diluent solvent, prior to its application, either of which results in a more than minimal effect on the VOC content of the coating, the VOC content of the coating shall be redetermined.

(iii) Determine the VOC content of each primer, topcoat, and specialty coating formulation (less water and exempt solvents) as applied using EPA Method 24 or from manufacturer's data.

(2)(i) Determine the volume both in total gallons as applied and in total gallons (less water and exempt solvents) as applied of each coating. If any ingredients, including diluent solvents, are added prior to its application, the volume of each coating shall be determined at a time and location in the process after all ingredients (including any diluent solvent) have been added.

(ii) Determine the volume of each coating (less water and exempt solvents) as applied each day.

(iii) The volume applied may be determined from company records.

(3) Calculate the total volume in gallons (less water and exempt solvents) as applied by summing the individual volumes of each coating (less water and exempt solvents) as applied, which were determined under paragraph (f)(2) of this section.

(4) Calculate the volume-weighted average mass of VOC emitted per unit volume (lb/gal) of coating (less water and exempt solvents) as applied for each coating category during each 30-day period using equation 8:

$$G_a = \frac{\sum_{i=1}^{n} (VOC)_{ci} V_{ci}}{C_{lwes}} \qquad Eq. 8$$

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where:

G_a = volume weighted average mass of VOC per unit volume of coating (lb/gal) (less water and exempt solvents) as applied during each 30-day period for those coatings being averaged.

n = number of coatings being averaged.

$(VOC)_{ci}$ = VOC content (lb/gal) of coating i (less water and exempt solvents) as applied (as determined using the procedures specified in paragraph (f)(1) of this section) that is being averaged during the 30-day period.

V_{ci} = volume (gal) of coating i (less water and exempt solvents) as applied that is being averaged during the 30-day period.

C_{lwes} = total volume (gal) of all coatings (less water and exempt solvents) as applied during each 30-day period for those coatings being averaged.

(5)(i) If the VOC content is found to be different when EPA Method 24 is used during an enforcement inspection from that used by the owner or operator in calculating G_a, recalculation of G_a is required using the new value. If more than one coating is involved, the recalculation shall be made once using all of the new values.

(ii) If recalculation is required, an owner or operator may elect to include in the recalculation of G_a uncontrolled coatings that were not previously included provided appropriate and sufficient records were maintained for these other coatings to allow daily recalculations.

(iii) The recalculated value of G_a under either paragraph (f)(5)(i) or (f)(5)(ii) of this section shall be used to determine compliance.

(g) *Overall VOC and/or organic HAP control efficiency—carbon adsorber.* Each owner or operator subject to the requirements of §63.745(d), §63.746(c), or §63.747(d) shall demonstrate initial compliance with the requirements of this subpart by following the procedures of paragraph (g)(1), (2), (3), (4), or (5) as applicable and paragraphs (6), (7), and (8) of this section. When an initial compliance demonstration is required by this subpart, the procedures in paragraphs (g)(9) through (g)(14) of this section shall be used in determining initial compliance with the provisions of this subpart.

(1) To demonstrate initial and continuous compliance with §63.745(d), §63.746(c), or §63.747(d) when emissions are controlled by a dedicated solvent recovery device, each owner or operator of the affected operation may perform a liquid-liquid HAP or VOC material balance over rolling 7- to 30-day periods in lieu of demonstrating compliance through the methods in paragraph (g)(2), (g)(3), or (g)(4) of this section. Results of the material balance calculations performed to demonstrate initial compliance shall be submitted to the Administrator with the notification of compliance status required by §63.9(h) and by §63.753 (c)(1)(iv), (d)(3)(i), and (e)(3). When demonstrating compliance by this procedure, §63.7(e)(3) of subpart A does not apply. The amount of liquid HAP or VOC applied and recovered shall be determined as discussed in paragraph (g)(1)(iii) of this section. The overall HAP or VOC emission reduction (R) is calculated using equation 9:

$$R = \frac{M_r}{\sum_{i=1}^{n} [W_{oi}\ M_{ci} - RS_i]} \times 100 \qquad Eq.\ 9$$

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(i) The value of RS_i is zero unless the owner or operator submits the following information to the Administrator for approval of a measured RS_i value that is greater than zero:

(A) Measurement techniques; and

(B) Documentation that the measured value of RS_i exceeds zero.

(ii) The measurement techniques of paragraph (g)(1)(i)(A) of this section shall be submitted to the Administrator for approval with the notification of performance test required under §63.7(b).

(iii) Each owner or operator demonstrating compliance by the test method described in paragraph (g)(1) of this section shall:

(A) Measure the amount of coating or stripper as applied;

(B) Determine the VOC or HAP content of all coating and stripper applied using the test method specified in §63.750 (c) (1) through (3) or (e) (1) and (2) of this section;

(C) Install, calibrate, maintain, and operate, according to the manufacturer's specifications, a device that indicates the amount of HAP or VOC recovered by the solvent recovery device over rolling 7- to 30-day periods; the device shall be certified by the manufacturer to be accurate to within ±2.0 percent, and this certification shall be kept on record;

(D) Measure the amount of HAP or VOC recovered; and

(E) Calculate the overall HAP or VOC emission reduction (R) for rolling 7- to 30-day periods using equation 9.

(F) Compliance is demonstrated if the value of R is equal to or greater than the overall HAP control efficiencies required by §63.745(d), §63.746(c), or §63.747(d).

(2) To demonstrate initial compliance with §63.745(d), §63.746(c), or §63.747(d) when affected HAP emission points are controlled by an emission control device other than a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel, each owner or operator of an affected source shall perform a gaseous emission test using the following procedures.

(i) Construct the overall HAP emission reduction system so that all volumetric flow rates and total HAP or VOC emissions can be accurately determined by the applicable test methods and procedures specified in §63.750(g) (9) through (14).

(ii) Determine capture efficiency from the HAP emission points by capturing, venting, and measuring all HAP emissions from the HAP emission points. During a performance test, the owner or operator of affected HAP emission points located in an area with other gaseous emission sources not affected by this subpart shall isolate the affected HAP emission points from all other gaseous emission points by one of the following methods:

(A) Build a temporary total enclosure around the affected HAP emission point(s); or

(B) Shut down all gaseous emission points not affected by this subpart and continue to exhaust fugitive emissions from the affected HAP emission points through any building ventilation system and other room exhausts such as drying ovens. All ventilation air must be vented through stacks suitable for testing.

(iii) Operate the emission control device with all affected HAP emission points connected and operating.

(iv) Determine the efficiency (E) of the control device using equation 10:

(v) Determine the efficiency (F) of the capture system using equation 11:

$$E = \frac{\sum_{i=1}^{n} Q_{bi}\ C_{bi} - \sum_{j=1}^{p} Q_{aj}\ C_{aj}}{\sum_{i=1}^{n} Q_{bi}\ C_{bi}} \qquad Eq.\ 10$$

$$F = \frac{\sum_{i=1}^{n} Q_{di}\ C_{di}}{\sum_{i=1}^{n} Q_{di}\ C_{di} + \sum_{k=1}^{p} Q_{fk}\ C_{fk}} \qquad Eq.\ 11$$

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(vi) For each HAP emission point subject to §63.745(d), §63.746(c), or §63.747(d), compliance is demonstrated if the product of (E) × (F) is equal to or greater than the overall HAP control efficiencies required under §63.745(d), §63.746(c), or §63.747(d).

(3) To demonstrate compliance with §63.745(d), §63.746(c), or §63.747(d) when affected HAP emission points are controlled by a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel, each owner or operator of an affected source shall perform a gaseous emission test using the following procedures:

(i) Construct the overall HAP emission reduction system so that each volumetric flow rate and the total HAP emissions can be accurately determined by the applicable test methods and procedures specified in §63.750(g) (9) through (14);

(ii) Assure that all HAP emissions from the affected HAP emission point(s) are segregated from gaseous emission points not affected by this subpart and that the emissions can be captured for measurement, as described in paragraphs (g)(2)(ii) (A) and (B) of this section;

(iii) Operate the emission control device with all affected HAP emission points connected and operating;

(iv) Determine the efficiency (H_v) of each individual carbon adsorber vessel (v) using equation 12:

$$H_v = \frac{Q_{gv}\ C_{gv} - Q_{kv}\ C_{kv}}{Q_{gv}\ C_{gv}} \qquad Eq.\ 12$$

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(v) Determine the efficiency of the carbon adsorption system (H_{sys}) by computing the average efficiency of the individual carbon adsorber vessels as weighted by the volumetric flow rate (Q_{hv}) of each individual carbon adsorber vessel (v) using equation 13:

$$H_{sys} = \frac{\sum_{v=1}^{q} H_v\ Q_{hv}}{\sum_{v=1}^{q} Q_{hv}} \qquad Eq.\ 13$$

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(vi) Determine the efficiency (F) of the capture system using equation 11.

(vii) For each HAP emission point subject to §63.745(d), §63.746(c), or §63.747(d), compliance is demonstrated if the product of (H_{sys}) × (F) is equal to or greater than the overall HAP control efficiency required by §63.745(d), §63.746(c), or §63.747(d).

(4) An alternative method of demonstrating compliance with §63.745(d), §63.746(c), or §63.747(d) is the installation of a total enclosure around the affected HAP emission point(s) and the ventilation of all HAP emissions from the total enclosure to a control device with the efficiency specified in paragraph (g)(4)(iii) of this section. If this method is selected, the compliance test methods described in paragraphs (g)(1), (g)(2), and (g)(3) of this section are not required. Instead, each owner or operator of an affected source shall:

(i) Demonstrate that a total enclosure is installed. An enclosure that meets the requirements in paragraphs (g)(4)(i) (A) through (D) of this section shall be considered a total enclosure. The owner or operator of an enclosure that does not meet these requirements may apply to the Administrator for approval of the enclosure as a total enclosure on a case-by-case basis. The enclosure shall be considered a total enclosure if it is demonstrated to the satisfaction of the Administrator that all HAP emissions from the affected HAP emission point(s) are contained and vented to the control device. The requirements for automatic approval are as follows:

(A) The total area of all natural draft openings shall not exceed 5% of the total surface area of the total enclosure's walls, floor, and ceiling;

(B) All sources of emissions within the enclosure shall be a minimum of four equivalent diameters away from each natural draft opening;

(C) The average inward face velocity (FV) across all natural draft openings shall be a minimum of 3,600 meters per hour as determined by the following procedures:

(*1*) All forced makeup air ducts and all exhaust ducts are constructed so that the volumetric flow rate in each can be accurately determined by the test methods and procedures specified in §63.750(g) (10) and (11); volumetric flow rates shall be calculated without the adjustment normally made for moisture content; and

(*2*) Determine FV by equation 14:

$$FV = \frac{\sum_{j=1}^{n} Q_{out\,j} - \sum_{i=1}^{p} Q_{in\,i}}{\sum_{k=1}^{q} A_k} \qquad Eq.\ 14$$

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(D) The air passing through all natural draft openings shall flow into the enclosure continuously. If FV is less than or equal to 9,000 meters per hour, the continuous inward flow of air shall be verified by continuous observation using smoke tubes, streamers, tracer gases, or other means approved by the Administrator over the period that the volumetric flow rate tests required to determine FV are carried out. If FV is greater than 9,000 meters per hour, the direction of airflow through the natural draft openings shall be presumed to be inward at all times without verification.

(ii) Determine the control device efficiency using equation 10 or equations 12 and 13, as applicable, and the test methods and procedures specified in §63.750(g) (9) through (14).

(iii) Compliance shall be achieved if the installation of a total enclosure is demonstrated and the value of E determined from equation 10 (or the value of H_{sys} determined from equations 12 and 13, as applicable) is equal to or greater than the overall HAP control efficiencies required under §63.745(d), §63.746(c), or §63.747(d).

(5) When nonregenerative carbon adsorbers are used to comply with §63.745(d), §63.746(c), or §63.747(d), the owner or operator may conduct a design evaluation to demonstrate initial compliance in lieu of following the compliance test procedures of paragraphs (g)(1), (2), (3), and (4) of this section. The design evaluation shall consider the vent stream composition, component concentrations, flow rate, relative humidity, and temperature, and shall establish the design exhaust vent stream organic compound concentration level, capacity of the carbon bed, type and working capacity of activated carbon used for the carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and the emission point operating schedule.

(6)(i) To demonstrate initial compliance with §63.745(d), §63.746(c), or §63.747(d) when hard piping or ductwork is used to direct VOC and HAP emissions from a VOC and HAP source to the control device, each owner or operator shall demonstrate upon inspection that the criteria of paragraph (g)(6)(i)(A) and paragraph (g)(6)(i) (B) or (C) of this section VR/FD are met.

(A) The equipment shall be vented to a control device.

(B) The control device efficiency (E or H_{sys}, as applicable) determined using equation 10 or equations 12 and 13, respectively, and the test methods and procedures specified in §63.750(g) (9) through (14), shall be equal to or greater than the overall HAP control efficiency required by §63.745(d), §63.746(c), or §63.747(d).

(C) When a nonregenerative carbon adsorber is used, the ductwork from the affected emission point(s) shall be vented to the control device and the carbon adsorber shall be demonstrated, through the procedures of §63.750(g) (1), (2), (3), (4), or (5), to meet the requirements of §63.745(d), §63.746(c), or §63.747(d).

(7) Startups and shutdowns are normal operation for this source category. Emissions from these activities are to be included when determining if the standards specified in §63.745(d), §63.746(c), or §63.747(d) are being attained.

(8) An owner or operator who uses compliance techniques other than those specified in this subpart shall submit a description of those compliance procedures, subject to the Administrator's approval, in accordance with §63.7(f) of subpart A.

(9) Either EPA Method 18 or EPA Method 25A of appendix A of part 60, as appropriate to the conditions at the site, shall be used to determine VOC and HAP concentration of air exhaust streams as required by §63.750(g) (1) through (6). The owner or operator shall submit notice of the intended test method to the Administrator for approval along with the notification of the performance test required under §63.7(b). Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. Except as indicated in paragraphs (g)(9) (i) and (ii) of this section, the test shall consist of three separate runs, each lasting a minimum of 30 minutes.

(i) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all the individual carbon adsorber vessels pursuant to paragraph (g) (2) or (4) of this section, the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all of the individual carbon adsorber vessels.

(ii) When either EPA Method 18 or EPA Method 25A is to be used in the determination of the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each carbon adsorber vessel pursuant to §63.750(g) (3) or (4), each carbon adsorber vessel shall be tested individually. The test for each carbon adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(10) EPA Method 1 or 1A of appendix A of part 60 is used for sample and velocity traverses.

(11) EPA Method 2, 2A, 2C, or 2D of appendix A of part 60 is used for velocity and volumetric flow rates.

(12) EPA Method 3 of appendix A of part 60 is used for gas analysis.

(13) EPA Method 4 of appendix A of part 60 is used for stack gas moisture.

(14) EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test period.

(h) *Overall VOC and/or organic HAP control efficiency—control devices other than carbon adsorbers.* Calculate the overall control efficiency of a control system with a control device other than a carbon adsorber using the following procedure.

(1) Calculate the overall control efficiency using equation 15:

$$E_k = R_k F_k \qquad Eq.\ 15$$

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where:

E_k = overall VOC and/or organic HAP control efficiency (expressed as a decimal) of control system k.

R_k = destruction or removal efficiency (expressed as a decimal) of total organic compounds or total organic HAP for control device k as determined under paragraph (h)(2) of this section.

F_k = capture efficiency (expressed as a decimal) of capture system k as determined under paragraph (h)(3) of this section.

(2) The organic HAP destruction or removal efficiency R_k of a control device other than a carbon adsorber shall be determined using the procedures described below. The destruction efficiency may be measured as either total organic HAP or as TOC minus methane and ethane according to these procedures.

(i) Use Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, to select the sampling sites.

(ii) Determine the gas volumetric flow rate using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(iii) Use Method 18 of 40 CFR part 60, appendix A, to measure either TOC minus methane and ethane or total organic HAP. Alternatively, any other method or data that have been validated according to the applicable procedures in Method 301 of this part may be used.

(iv) Use the following procedure to calculate the destruction or removal efficiency:

(A) The destruction or removal efficiency test shall consist of three runs. The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, the samples shall be taken at approximately equal intervals in time such as 15-minute intervals during the run.

(B) Calculate the mass rate of either TOC (minus methane and ethane) or total organic HAP (E_i, E_o using equations 16 and 17:

$$E_i = K_2 \left(\sum_{j=1}^{n} C_{ij} M_{ij} \right) Q_i \qquad Eq.\ 16$$

$$E_o = K_2 \left(\sum_{j=1}^{n} C_{oj} M_{oj} \right) Q_o \qquad Eq.\ 17$$

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where:

E_i, E_o = mass rate of TOC (minus methane and ethane) or total organic HAP at the inlet and outlet of the control device, respectively, dry basis, kg/hr.

K_2 = constant, 2.494×10^{-6} (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.

n = number of sample components in the gas stream.

C_{ij}, C_{oj} = concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, dry basis, parts per million by volume.

M_{ij}, M_{oj} = molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.

Q_i, Q_o = flow rate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

(*1*) Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by EPA Method 18 shall be summed using equation 16 in paragraph (h)(2)(iv)(B) of this section.

(*2*) Where the mass rate of total organic HAP is being calculated, only the organic HAP species shall be summed using equation 17 in paragraph (h)(2)(iv)(B) of this section. The list of organic HAP is provided in §63.104 of subpart F of this part.

(C) Calculate the destruction or removal efficiency for TOC (minus methane and ethane) or total organic HAP using equation 18:

$$R = \frac{E_i - E_o}{E_i} \times 100 \qquad Eq.\ 18$$

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where:

R = destruction or removal efficiency of control device, percent.

E_i = mass rate of TOC (minus methane and ethane) or total organic HAP at the inlet to the control device as calculated under paragraph (h)(2)(iv)(B) of this section, kg TOC per hour or kg organic HAP per hour.

E_o = mass rate of TOC (minus methane and ethane) or total organic HAP at the outlet of the control device, as calculated under paragraph (h)(2)(iv)(B) of this section, kg TOC per hour or kg organic HAP per hour.

(3) Determine the capture efficiency F_K of each capture system to which organic HAP and VOC emissions from coating operations are vented. The capture efficiency value shall be determined using Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure as found in appendix B to §52.741 of part 52 of this chapter for total enclosures, and the capture efficiency protocol specified in §52.741(a)(4)(iii) of part 52 of this chapter for all other enclosures.

(i)(1) *Alternative application method—primers, topcoats, and specialty coatings.* (i) Each owner or operator seeking to use an alternative application method (as allowed in §63.745(f)(1)(v)) in complying with the standards for primers and topcoats shall use the procedures specified in paragraphs (i)(2)(i) and (ii) or (i)(2)(iii) of this section to determine the organic HAP and VOC emission levels of the alternative application technique as compared to either HVLP, electrostatic spray application methods, air-assisted airless application methods, or airless application methods.

(ii) For specialty coatings, an owner or operator may use any other coating application method capable of achieving emission reductions or a transfer efficiency equivalent to or better than that provided by HVLP, electrostatic spray, air-assisted airless, or airless application. Any owner or operator using an application method pursuant to this paragraph (i)(2)(ii) shall maintain records demonstrating the transfer efficiency achieved.

(2)(i) For the process or processes for which the alternative application method is to be used, the total organic HAP and VOC emissions shall be determined for an initial 30-day period, the period of time required to apply coating to five completely assembled aircraft, or a time period approved by the permitting agency. During this initial period, only HVLP, electrostatic spray application methods, air-assisted airless application methods, or airless application methods shall be used. The emissions shall be determined based on the volumes, organic HAP contents (less water), and VOC contents (less water and exempt solvents) of the coatings as applied.

(ii) Upon implementation of the alternative application method, use the alternative application method in production on actual production parts or assemblies for a period of time sufficient to coat an equivalent amount of parts and assemblies with coatings identical to those used in the initial 30-day period. The actual organic HAP and VOC emissions shall be calculated for this post-implementation period.

(iii) Test the proposed application method against either HVLP, electrostatic spray application methods, air-assisted airless application methods, or airless application methods in a laboratory or pilot production area, using parts and coatings representative of the process(es) where the alternative method is to be used. The laboratory test will use the same part configuration(s) and the same number of parts for both the proposed method and the HVLP, electrostatic spray application methods, air-assisted airless application methods, or airless application methods.

(iv) Whenever the approach in either paragraph (i)(2)(ii) or (i)(2)(iii) of this section is used, the owner or operator shall calculate both the organic HAP and VOC emission reduction using equation:

$$P = \frac{E_b - E_a}{E_b} \times 100 \qquad Eq.\ 19$$

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where:

P = organic HAP or VOC emission reduction, percent.

E_b = organic HAP or VOC emissions, in pounds, before the alternative application technique was implemented, as determined under paragraph (i)(2)(i) of this section.

E_a = organic HAP of VOC emissions, in pounds, after the alternative application technique was implemented, as determined under paragraph (i)(2)(ii) of this section.

(3) Each owner or operator seeking to demonstrate that an alternative application method achieves emission reductions equivalent to HVLP, electrostatic spray application methods, air-assisted airless application methods, or airless application methods shall comply with the following:

(i) Each coating shall be applied such that the dried film thickness is within the range specified by the applicable specification(s) for the aerospace vehicle or component being coated.

(ii) If no such dried film thickness specification(s) exists, the owner or operator shall ensure that the dried film thickness applied during the initial 30-day period is equivalent to the dried film thickness applied during the alternative application method test period for similar aerospace vehicles or components.

(iii) Failure to comply with these dried film thickness requirements shall invalidate the test results obtained under paragraph (i)(2)(i) of this section.

(j) *Spot stripping and decal removal.* Each owner or operator seeking to comply with §63.746(b)(3) shall determine the volume of organic HAP-containing chemical strippers or alternatively the weight of organic HAP used per aircraft using the procedure specified in paragraphs (j)(1) through (j)(3) of this section.

(1) For each chemical stripper used for spot stripping and decal removal, determine for each annual period the total volume as applied or the total weight of organic HAP using the procedure specified in paragraph (d)(2) of this section.

(2) Determine the total number of aircraft for which depainting operations began during the annual period as determined from company records.

(3) Calculate the annual average volume of organic HAP-containing chemical stripper or weight of organic HAP used for spot stripping and decal removal per aircraft using equation 20 (volume) or equation 21 (weight):

$$C = \frac{\sum_{i=1}^{n} V_{si}}{A} \qquad Eq.\ 20$$

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where:

C = annual average volume (gal per aircraft) of organic HAP-containing chemical stripper used for spot stripping and decal removal.

n = number of organic HAP-containing chemical strippers used in the annual period.

V_{si} = volume (gal) of organic HAP-containing chemical stripper (i) used during the annual period.

A = number of aircraft for which depainting operations began during the annual period.

$$C = \frac{\sum_{i=1}^{n}\left(V_{si} D_{hi}\left(\sum_{i=1}^{m} W_{hi}\right)\right)}{A} \qquad Eq.\ 21$$

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where:

C = annual average weight (lb per aircraft) of organic HAP (chemical stripper) used for spot stripping and decal removal.

m = number of organic HAP contained in each chemical stripper, as applied.

n = number of organic HAP-containing chemical strippers used in the annual period.

W_{hi} = weight fraction (expressed as a decimal) of each organic HAP (i) contained in the chemical stripper, as applied, for each aircraft depainted.

D_{hi} = density (lb/gal) of each organic HAP-containing chemical stripper (i), used in the annual period.

V_{si} = volume (gal) of organic HAP-containing chemical stripper (i) used during the annual period.

A = number of aircraft for which depainting operations began during the annual period.

(k) *Organic HAP content level determination—compliant chemical milling maskants.* For those uncontrolled chemical milling maskants complying with the chemical milling maskant organic HAP content limit specified in §63.747(c)(1) without being averaged, the procedure in paragraph (k)(1) of this section shall be used to determine the mass of organic HAP emitted per unit volume of coating (chemical milling maskant) i as applied (less water), H_i (lb/gal). As an alternative to the procedures in paragraph (k)(1) of this section, an owner or operator may use coating manufacturer's supplied data to demonstrate that organic HAP emitted per volume of coating (less water), as applied, is less than or equal to the applicable organic HAP limit specified in §63.747(c). Owners and operators that use the coating manufacturer's supplied data to demonstrate compliance based on the HAP content of the coating may add non-HAP solvent to those coatings provided that the owner or operator also maintains records of the non-HAP solvent added to the coating.

(1) For coatings that contain no exempt solvents, determine the total organic HAP content using manufacturer's supplied data or Method 24 of 40 CFR part 60, appendix A to determine the VOC content. The VOC content shall be used as a surrogate for total HAP content for coatings that contain no exempt solvent. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24 analysis, compliance shall be based on the results from the Method 24 analysis.

When Method 24 is used to determine the VOC content of water-reducible coatings, the precision adjustment factors in Reference Method 24 shall be used. If the adjusted analytical VOC content is less than the formulation solvent content, then the analytical VOC content should be set equal to the formulation solvent content.

(2) [Reserved]

(l) *Organic HAP content level determination—averaged chemical milling maskants.* For those uncontrolled chemical milling maskants that are averaged together in order to comply with the chemical milling maskant organic HAP content level specified in §63.747(c)(1), the procedure specified in paragraphs (l)(1) through (l)(4) of this section shall be used to determine the monthly volume-weighted average mass of organic HAP emitted per volume of chemical milling maskant (less water) as applied, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(1) Determine the total organic HAP weight fraction as applied of each chemical milling maskant used during each 30-day period using the procedure specified in paragraph (d)(1) of this section.

(2) Determine for each 30-day period:

(i) The individual volume of each chemical milling maskant applied in terms of total gallons (less water) (using the procedure specified in paragraph (d)(2) of this section), and

(ii) The total volume in gallons of all chemical milling maskants (less water) as applied by summing the individual volumes of each chemical milling maskant as applied (less water).

(3) Determine the density of each chemical milling maskant as applied used during each 30-day period using the procedure specified in paragraph (d)(3) of this section.

(4) Calculate the volume-weighted average mass of organic HAP emitted per unit volume (lb/gal) of chemical milling maskant (less water) as applied for all chemical milling maskants during each 30-day period using equation 22:

$$H_a = \frac{\sum_{i=1}^{n} W_{Hi} D_{mi} V_{mi}}{M_{lw}} \qquad \text{Eq. 22}$$

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where:

H_a = volume-weighted mass of organic HAP emitted per unit volume of chemical milling maskants (lb/gal) (less water) as applied during each 30-day period for those chemical milling maskants being averaged.

n = number of chemical milling maskants being averaged.

W_{Hi} = weight fraction (expressed as a decimal) of organic HAP in chemical milling maskant i (less water) as applied during each 30-day period that is averaged.

D_{mi} = density (lb chemical milling maskant per gal coating) of chemical milling maskant i as applied during each 30-day period that is averaged.

V_{mi} = volume (gal) of chemical milling maskant i (less water) as applied during the 30-day period that is averaged.

M_{lw} = total volume (gal) of all chemical milling maskants (less water) as applied during each 30-day period that is averaged.

(m) *VOC content level determination—compliant chemical milling maskants.* For those uncontrolled chemical milling maskants complying with the chemical milling maskant VOC content limit specified in §63.747(c)(2) without being averaged, the procedure specified in paragraphs (m)(1) and (2) of this section shall be used to determine the mass of VOC emitted per volume of chemical milling maskant (less water and exempt solvents) as applied. As an alternative to the procedures in paragraphs (m)(1) and (2) of this section, an owner or operator may use coating manufacturer's supplied data to demonstrate that VOC emitted per volume of coating (less water and exempt solvents), as applied, is less than or equal to the applicable VOC limit specified in §63.747(c).

(1) Determine the mass of VOC emitted per unit volume of chemical milling maskant (lb/gal) (less water and exempt solvents) as applied, G_i, for each chemical milling maskant using the procedures specified in paragraphs (e)(1) and (e)(2) of this section.

(2)(i) If the VOC content is found to be different when EPA Method 24 is used during an enforcement inspection from that used by the owner or operator in calculating G_i, compliance shall be based, except as provided in paragraph (m)(2)(ii) of this section, upon the VOC content obtained using EPA Method 24.

(ii) If the VOC content of a chemical milling maskant obtained using EPA Method 24 would indicate noncompliance as determined under §63.749(h)(3)(i), an owner or operator may elect to average the chemical milling maskant with other uncontrolled chemical milling maskants and (re)calculate G_a (using the procedure specified in paragraph (n) of this section), provided appropriate and sufficient records were maintained for all chemical milling maskants included in the average recalculation. The (re)calculated value of G_a for the averaged chemical milling maskants shall then be used to determine compliance.

(n) *VOC content level determination—averaged chemical milling maskants.* For those uncontrolled chemical milling maskants that are averaged together in order to comply with the chemical milling maskant VOC content limit specified in §63.747(c)(2), the procedure specified in paragraphs (n)(1) through (n)(4) of this section shall be used to determine the monthly volume-weighted average mass of VOC emitted per volume of chemical milling maskant (less water and exempt solvents) as applied, unless the permitting agency specifies a shorter averaging period as part of an ambient ozone control program.

(1) Determine the VOC content of each chemical milling maskant (less water and exempt solvents) as applied used during each 30-day period using the procedure specified in paragraph (f)(1) of this section.

(2)(i) Determine the individual volume of each chemical milling maskant applied in terms of total gallons (less water and exempt solvents) using the procedure specified in paragraph (f)(2) of this section, and

(ii) Calculate the total volume in gallons of all chemical milling maskants (less water and exempt solvents) as applied by summing the individual volumes of each chemical milling maskant (less water and exempt solvents) as applied.

(3) Calculate the volume-weighted average mass of VOC emitted per unit volume (lb/gal) of chemical milling maskant (less water and exempt solvents) as applied during each 30-day period using equation 23:

$$G_a = \frac{\sum_{i=1}^{n} (VOC)_{mi} V_{mi}}{M_{lwes}} \qquad \text{Eq. 23}$$

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where:

G_a = volume-weighted average mass of VOC per unit volume of chemical milling maskant (lb/gal) (less water and exempt solvents) as applied during each 30-day period for those chemical milling maskants that are averaged.

n = number of chemical milling maskants being averaged.

$(VOC)_{mi}$ = VOC content (lb/gal) of chemical milling maskant i (less water and exempt solvents) as applied during the 30-day period that is averaged.

V_{mi} = volume (gal) of chemical milling maskant i (less water and exempt solvents) as applied during the 30-day period that is averaged.

M_{lwes} = total volume (gal) of all chemical milling maskants (less water and exempt solvents) as applied during each 30-day period that is averaged.

(4)(i) If the VOC content is found to be different when EPA Method 24 is used during an enforcement inspection from that used by the owner or operator in calculating G_a, recalculation of G_a is required using the new value. If more than one chemical milling maskant is involved, the recalculation shall be made once using all of the new values.

(ii) If recalculation is required, an owner or operator may elect to include in the recalculation of G_a uncontrolled chemical milling maskants that were not previously included provided appropriate and sufficient records were maintained for these other chemical milling maskants to allow daily recalculations.

(iii) The recalculated value of G_a under either paragraph (n)(4)(i) or (n)(4)(ii) of this section shall be used to determine compliance.

(o) *Inorganic HAP emissions—dry particulate filter certification requirements.* Dry particulate filters used to comply with §§63.745(g)(2) or 63.746(b)(4) must be certified by the filter manufacturer or distributor, paint/depainting booth supplier, and/or the facility owner or operator using method 319 in appendix A of this part, to meet or exceed the efficiency data points found in Tables 2 and 3, or 4 and 5 of §63.745 for existing or new sources respectively.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15021, Mar. 27, 1998; 63 FR 46534, Sept. 1, 1998; 65 FR 62215, Oct. 17, 2000; 79 FR 11284, Feb. 27, 2014; 80 FR 76185, Dec. 7, 2015]

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§63.751 Monitoring requirements.

(a) *Enclosed spray gun cleaners.* Each owner or operator using an enclosed spray gun cleaner under §63.744(c)(1) shall visually inspect the seals and all other potential sources of leaks associated with each enclosed gun spray cleaner system at least once per month. Each inspection shall occur while the system is in operation.

(b) *Incinerators and carbon adsorbers—initial compliance demonstrations.* Each owner or operator subject to the requirements in this subpart must demonstrate initial compliance with the requirements of §§63.745(d), 63.746(c), and 63.747(d) of this subpart. Each owner or operator using a carbon adsorber to comply with the requirements in this subpart shall comply with the requirements specified in paragraphs (b)(1) through (7) of this section. Each owner or operator using an incinerator to comply with the requirements in this subpart shall comply with the requirements specified in paragraphs (b)(8) through (12) of this section.

(1) Except as allowed by paragraph (b)(2) or (b)(5) of this section, for each control device used to control organic HAP or VOC emissions, the owner or operator shall fulfill the requirements of paragraph (b)(1) (i) or (ii) of this section.

(i) The owner or operator shall establish as a site-specific operating parameter the outlet total HAP or VOC concentration that demonstrates compliance with §63.745(d), §63.746(c), or §63.747(d) as appropriate; or

(ii) The owner or operator shall establish as the site-specific operating parameter the control device efficiency that demonstrates compliance with §63.745(d), §63.746(c), or §63.747(d).

(iii) When a nonregenerative carbon adsorber is used to comply with §63.745(d), §63.746(c), or §63.747(d), the site-specific operating parameter value may be established as part of the design evaluation used to demonstrate initial compliance. Otherwise, the site-specific operating parameter value shall be established during the initial performance test conducted according to the procedures of §63.750(g).

(2) For each nonregenerative carbon adsorber, in lieu of meeting the requirements of §63.751(b)(1), the owner or operator may establish as the site-specific operating parameter the carbon replacement time interval, as determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system. The carbon replacement time interval shall be established either as part of the design evaluation to demonstrate initial compliance or during the initial performance test conducted according to the procedures in §63.750(g) (1), (2), (3), or (4).

(3) Each owner or operator venting solvent HAP emissions from a source through a room, enclosure, or hood, to a control device to comply with §63.745(d), §63.746(c), or §63.747(d) shall:

(i) Submit to the Administrator with the compliance status report required by §63.9(h) of the General Provisions a plan that:

(A) Identifies the operating parameter to be monitored to ensure that the capture efficiency measured during the initial compliance test is maintained;

(B) Discusses why this parameter is appropriate for demonstrating ongoing compliance; and

(C) Identifies the specific monitoring procedures;

(ii) Set the operating parameter value, or range of values, that demonstrate compliance with §63.745(d), §63.746(c), or §63.747(d), as appropriate; and

(iii) Conduct monitoring in accordance with the plan submitted to the Administrator unless comments received from the Administrator require an alternate monitoring scheme.

(4) Owners or operators subject to §63.751(b) (1), (2), or (3) shall calculate the site-specific operating parameter value, or range of values, as the arithmetic average of the maximum and/or minimum operating parameter values, as appropriate, that demonstrate compliance with §63.745(d), §63.746(c), or §63.747(d) during the multiple test runs required by §63.750 (g)(2) and (g)(1).

(5) For each solvent recovery device used to comply with §63.745(d), §63.746(c), or §63.747(d), in lieu of meeting the requirements of paragraph (b)(1) of this section, the results of the material balance calculation conducted in accordance with §63.750(g)(1) may serve as the site-specific operating parameter that demonstrates compliance with §63.745(d), §63.746(c), or §63.747(d).

(6) *Continuous compliance monitoring.* Following the date on which the initial compliance demonstration is completed, continuous compliance with §63.745(d), §63.746(c), or §63.747(d) of this subpart shall be demonstrated as outlined in this paragraph.

(i) Each owner or operator of an affected source subject to §63.745(d), §63.746(c), or §63.747(d) of this subpart shall monitor the applicable parameters specified in paragraph (b)(6)(ii), (b)(6)(iii), or (b)(6)(iv) of this section depending on the type of control technique used.

(ii) Compliance monitoring shall be subject to the following provisions:

(A) Except as allowed by paragraph (b)(6)(iii)(A)(*2*) of this section, all continuous emission monitors shall comply with performance specification (PS) 8 or 9 in 40 CFR part 60, appendix B, as appropriate depending on whether VOC or HAP concentration is being measured. The requirements in appendix F of 40 CFR part 60 shall also be followed. In conducting the quarterly audits required by appendix F, owners or operators shall challenge the monitors with compounds representative of the gaseous emission stream being controlled.

(B) If the effluent from multiple emission points are combined prior to being channeled to a common control device, the owner or operator is required only to monitor the common control device, not each emission point.

(iii) Owners or operators complying with §63.745(d), §63.746(c), or §63.747(d) through the use of a control device and establishing a site-specific operating parameter in accordance with paragraph (b)(1) of this section shall fulfill the requirements of paragraph (b)(6)(iii)(A) of this section and paragraph (b)(6)(iii)(B) or (C) of this section, as appropriate.

(A) The owner or operator shall install, calibrate, operate, and maintain a continuous emission monitor.

(*1*) The continuous emission monitor shall be used to measure continuously the total HAP or VOC concentration at both the inlet and the outlet whenever HAP from coating and paint stripping operations are vented to the control device, or when continuous compliance is demonstrated through a percent efficiency calculation; or

(*2*) For owners or operators using a nonregenerative carbon adsorber, in lieu of using continuous emission monitors as specified in paragraph (b)(6)(iii)(A)(*1*) of this section, the owner or operator may use a portable monitoring device to monitor total HAP or VOC concentration at the inlet and outlet or the outlet of the carbon adsorber as appropriate.

(*a*) The monitoring device shall be calibrated, operated, and maintained in accordance with the manufacturer's specifications.

(*b*) The monitoring device shall meet the requirements of part 60, appendix A, Method 21, sections 2, 3, 4.1, 4.2, and 4.4. The calibration gas shall either be representative of the compounds to be measured or shall be methane, and shall be at a concentration associated with 125% of the expected organic compound concentration level for the carbon adsorber outlet vent.

(*c*) The probe inlet of the monitoring device shall be placed at approximately the center of the carbon adsorber outlet vent. The probe shall be held there for at least 5 minutes during which flow into the carbon adsorber is expected to occur. The maximum reading during that period shall be used as the measurement.

(B) If complying with §63.745(d), §63.746(c), or §63.747(d) through the use of a carbon adsorption system with a common exhaust stack for all of the carbon vessels, the owner or operator shall not operate the control device at an average control efficiency less than that required by §63.745(d), §63.746(c), or §63.747(d) for three consecutive adsorption cycles.

(C) If complying with §63.745(d), §63.746(c), or §63.747(d) through the use of a carbon adsorption system with individual exhaust stacks for each of the multiple carbon adsorber vessels, the owner or operator shall not operate any carbon adsorber vessel at an average control efficiency less than that required by §63.745(d), §63.746(c), or §63.747(d) as calculated daily using a 7 to 30-day rolling average.

(D) If complying with §63.745(d), §63.746(c), or §63.747(d) through the use of a nonregenerative carbon adsorber, in lieu of the requirements of paragraph (b)(6)(iii) (B) or (C) of this section, the owner or operator may monitor the VOC or HAP concentration of the adsorber exhaust daily, at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater, or at a frequency as determined by the owner or operator and approved by the Administrator.

(iv) Owners or operators complying with §63.745(d), §63.746(c), or §63.747(d) through the use of a nonregenerative carbon adsorber and establishing a site-specific operating parameter for the carbon replacement time interval in accordance with paragraph (b)(2) shall replace the carbon in the carbon adsorber system with fresh carbon at the predetermined time interval as determined in the design evaluation.

(v) Owners or operators complying with §63.745(d), §63.746(c), or §63.747(d) by capturing emissions through a room, enclosure, or hood shall install, calibrate, operate, and maintain the instrumentation necessary to measure continuously the site-specific operating parameter established in accordance with paragraph (b)(3) of this section whenever VOC and HAP from coating and stripper operations are vented through the capture device. The capture device shall not be operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with paragraph (b)(3) of this section for any 3-hour period.

(7) Owners or operators complying with paragraph (b)(4) or (b)(5) of this section shall calculate the site-specific operating parameter value as the arithmetic average of the minimum operating parameter values that demonstrate compliance with §63.745(d)and §63.747(d) during the three test runs required by §63.750(h)(2)(iv).

(8) All temperature monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturer's specifications. Every 3 months, facilities shall replace the temperature sensors or have the temperature sensors recalibrated. As an alternative, a facility may use a continuous emission monitoring system (CEMS) to verify that there has been no change in the destruction efficiency and effluent composition of the incinerator.

(9) Where an incinerator other than a catalytic incinerator is used, a thermocouple equipped with a continuous recorder shall be installed and continuously operated in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

(10) Where a catalytic incinerator is used, thermocouples, each equipped with a continuous recorder, shall be installed and continuously operated in the gas stream immediately before and after the catalyst bed.

(11) For each incinerator other than a catalytic incinerator, each owner or operator shall establish during each performance test during which compliance is demonstrated, including the initial performance test, the minimum combustion temperature as a site-specific operating parameter. This minimum combustion temperature shall be the operating parameter value that demonstrates compliance with §§63.745(d) and 63.747(d).

(12) For each catalytic incinerator, each owner or operator shall establish during each performance test during which compliance is demonstrated, including the initial performance test, the minimum gas temperature upstream of the catalyst bed and the minimum gas temperature difference across the catalyst bed as site-specific operating parameters. These minimum temperatures shall be the operating parameter values that demonstrate compliance with §§63.745(d) and 63.747(d).

(c) *Dry particulate filter, HEPA filter, and waterwash systems—primer, topcoat, and specialty coating application operations*. (1) Each owner or operator using a dry particulate filter system to meet the requirements of §63.745(g)(2) shall, while primer, topcoat, and specialty coating application operations are occurring, continuously monitor the pressure drop across the system and read and record the pressure drop once per shift following the recordkeeping requirements of §63.752(d), or install an interlock system as specified in §63.745(g)(2)(iv)(C).

(2) Each owner or operator using a conventional waterwash system to meet the requirements of §63.745(g)(2) shall, while primer or topcoat application operations are occurring, continuously monitor the water flow rate through the system and read and record the water flow rate once per shift following the recordkeeping requirements of §63.752(d), or install an interlock system as specified in §63.745(g)(2)(v). Each owner or operator using a pumpless waterwash system to meet the requirements of §63.745(g)(2) shall, while primer, topcoat, and specialty coating application operations are occurring, measure and record the parameter(s) recommended by the booth manufacturer that indicate booth performance once per shift, following the recordkeeping requirements of §63.752(d), or install an interlock system as specified in §63.745(g)(2)(v).

(d) *Particulate filters and waterwash booths—depainting operations.* Each owner or operator using a dry particulate filter or a conventional waterwash system in accordance with the requirements of §63.746(b)(4) shall, while depainting operations are occurring, continuously monitor the pressure drop across the particulate filters or the water flow rate through the conventional waterwash system and read and record the pressure drop or the water flow rate once per shift following the recordkeeping requirements of §63.752(e). Each owner or operator using a pumpless waterwash system to meet the requirements of §63.746(b)(4) shall, while depainting operations are occurring, measure and record the parameter(s) recommended by the booth manufacturer that indicate booth performance once per shift, following the recordkeeping requirements of §63.752(e).

(e) *Use of an alternative monitoring method*—(1) *General.* Until permission to use an alternative monitoring method has been granted by the Administrator under this paragraph, the owner or operator of an affected source shall remain subject to the requirements of this section.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this section including, but not limited to, the following:

(i) Alternative monitoring requirements when the affected source is infrequently operated; or

(ii) Alternative locations for installing continuous monitoring systems when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements; or

(iii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified in this section.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section. If the results of the specified and the alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4)(i) *Request to use alternative monitoring method.* An owner or operator who wishes to use an alternative monitoring method shall submit an application to the Administrator as described in paragraph (e)(4)(ii) of this section. The application may be submitted at any time provided that the monitoring method is not used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring method is to be used to demonstrate compliance with a relevant standard, the application shall be submitted not later than with the site-specific test plan required in §63.7 (c) (if requested) or with the site-specific performance evaluation plan (if requested), or at least 60 days before the performance evaluation is scheduled to begin.

(ii) The application shall contain a description of the proposed alternative monitoring system and information justifying the owner's or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) The owner or operator may submit the information required in this paragraph well in advance of the submittal dates specified in paragraph (e)(4)(i) of this section to ensure a timely review by the Administrator in order to meet the compliance demonstration date specified in this subpart.

(5) *Approval of request to use alternative monitoring method.* (i) The Administrator will notify the owner or operator of his/her intention to deny approval of the request to use an alternative monitoring method within 60 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplementary information that is submitted.

If notification of intent to deny approval is not received within 60 calendar days, the alternative monitoring method is to be considered approved. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intent to disapprove the request together with:

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (e)(5)(i) of this section, the owner or operator of such source shall continue to use the alternative monitoring method until approval is received from the Administrator to use another monitoring method as allowed by paragraph (e) of this section.

(f) *Reduction of monitoring data.* (1) The data may be recorded in reduced or nonreduced form (e.g., parts per million (ppm) pollutant and % O_2 or nanograms per Joule (ng/J) of pollutant).

(2) All emission data shall be converted into units specified in this subpart for reporting purposes. After conversion into units specified in this subpart, the data may be rounded to the same number of significant digits as used in this subpart to specify the emission limit (e.g., rounded to the nearest 1% overall reduction efficiency).

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§63.752 Recordkeeping requirements.

(a) *General*. Each owner or operator of a source subject to this subpart shall fulfill all recordkeeping requirements specified in §63.10(a), (b), (d), and (f), except §63.10(b)(2)(i), (iv) and (v). Each owner or operator must also record and maintain according to §63.10(b)(1) the information specified in paragraph (a)(1) through (3) of this section.

(1) In the event that an affected unit fails to meet an applicable standard, record the number of failures. For each failure record the date, time, and duration of each failure.

(2) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(3) Record actions taken to minimize emissions in accordance with §63.743(e), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(b) *Cleaning operation.* Each owner or operator of a new or existing cleaning operation subject to this subpart shall record the information specified in paragraphs (b)(1) through (b)(5) of this section, as appropriate.

(1) The name, vapor pressure, and documentation showing the organic HAP constituents of each cleaning solvent used for affected cleaning operations at the facility.

(2) For each cleaning solvent used in hand-wipe cleaning operations that complies with the composition requirements specified in §63.744(b)(1) or for semi-aqueous cleaning solvents used for flush cleaning operations:

(i) The name of each cleaning solvent used;

(ii) All data and calculations that demonstrate that the cleaning solvent complies with one of the composition requirements; and

(iii) Annual records of the volume of each solvent used, as determined from facility purchase records or usage records.

(3) For each cleaning solvent used in hand-wipe cleaning operations that does not comply with the composition requirements in §63.744(b)(1), but does comply with the vapor pressure requirement in §63.744(b)(2):

(i) The name of each cleaning solvent used;

(ii) The composite vapor pressure of each cleaning solvent used;

(iii) All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent; and

(iv) The amount (in gallons) of each cleaning solvent used each month at each operation.

(4) For each cleaning solvent used for the exempt hand-wipe cleaning operations specified in §63.744(e) that does not conform to the vapor pressure or composition requirements of §63.744(b):

(i) The identity and amount (in gallons) of each cleaning solvent used each month at each operation; and

(ii) A list of the processes set forth in §63.744(e) to which the cleaning operation applies.

(5) A record of all leaks from enclosed spray gun cleaners identified pursuant to §63.751(a) that includes for each leak found:

(i) Source identification;

(ii) Date leak was discovered; and

(iii) Date leak was repaired.

(c) *Primer, topcoat, and specialty coating application operations—organic HAP and VOC*. Each owner or operator required to comply with the organic HAP and VOC content limits specified in §63.745(c) shall record the information specified in paragraphs (c)(1) through (6) of this section, as appropriate. Each owner and operator using coating manufacturer's supplied data to demonstrate compliance with the applicable organic HAP or VOC limit specified in §63.745(c) may retain the manufacturer's documentation and annual purchase records in place of the records specified in paragraphs (c)(2) and (3) of this section. Owners and operators using the coating manufacturer's supplied data to demonstrate compliance based on the HAP content of the coating, and adding non-HAP solvent to those coatings, must also maintain records of the non-HAP solvent added to the coating.

(1) The name and VOC content as received and as applied of each primer, topcoat, and specialty coating used at the facility.

(2) For uncontrolled primers, topcoats, and specialty coatings that meet the organic HAP and VOC content limits in §63.745(c)(1) through (c)(6) without averaging:

(i) The mass of organic HAP emitted per unit volume of coating as applied (less water) (H_i) and the mass of VOC emitted per unit volume of coating as applied (less water and exempt solvents) (G_i) for each coating formulation within each coating category used each month (as calculated using the procedures specified in §63.750(c) and (e));

(ii) All data, calculations, and test results (including EPA Method 24 results) used in determining the values of H_i and G_i; and

(iii) The volume (gal) of each coating formulation within each coating category used each month.

(3) For “low HAP content” uncontrolled primers with organic HAP content less than or equal to 250 g/l (2.1 lb/gal) less water as applied and VOC content less than or equal to 250 g/l (2.1 lb/gal) less water and exempt solvents as applied:

(i) Annual purchase records of the total volume of each primer purchased; and

(ii) All data, calculations, and test results (including EPA Method 24 results) used in determining the organic HAP and VOC content as applied. These records shall consist of the manufacturer's certification when the primer is applied as received, or the data and calculations used to determine H_i if not applied as received.

(4) For primers, topcoats, and specialty coatings complying with the organic HAP or VOC content level by averaging:

(i) The monthly volume-weighted average masses of organic HAP emitted per unit volume of coating as applied (less water) (H_a) and of VOC emitted per unit volume of coating as applied (less water and exempt solvents) (G_a) for all coatings (as determined by the procedures specified in §63.750(d) and (f)); and

(ii) All data, calculations, and test results (including EPA Method 24 results) used to determine the values of H_a and G_a.

(5) For primers, topcoats, and specialty coatings that are controlled by a control device other than a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(h)) and all test results, data, and calculations used in determining the overall control efficiency;

(ii) If an incinerator other than a catalytic incinerator is used, continuous records of the firebox temperature recorded under §63.751(b)(9) and all calculated 3-hour averages of the firebox temperature; and

(iii) If a catalytic incinerator is used, continuous records of the temperature recorded under §63.751(b)(10) and all calculated 3-hour averages of the recorded temperatures.

(6) For primers, topcoats, and specialty coatings that are controlled by a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The length of the rolling material balance period and all data and calculations used for determining this rolling period. The record of the certification of the accuracy of the device that measures the amount of HAP or VOC recovered; or

(ii) For nonregenerative carbon adsorbers, the overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The record of the carbon replacement time established as the site-specific operating parameter to demonstrate compliance.

(d) *Primer, topcoat, and specialty coating application operations—inorganic HAP emissions*. (1) Each owner or operator complying with §63.745(g) for the control of inorganic HAP emissions from primer, topcoat, and specialty coating application operations through the use of a dry particulate filter system or a HEPA filter system shall record the pressure drop across the operating system once each shift during which coating operations occur.

(2) Each owner or operator complying with §63.745(g) through the use of a conventional waterwash system shall record the water flow rate through the operating system once each shift during which coating operations occur. Each owner or operator complying with §63.745(g) through the use of a pumpless waterwash system shall record the parameter (s) recommended by the booth manufacturer that indicate the performance of the booth once each shift during which coating operations occur.

(3) This log shall include the acceptable limit(s) of pressure drop, water flow rate, or for the pumpless waterwash booth, the booth manufacturer recommended parameter(s) that indicate the booth performance, as applicable, as specified by the filter or booth manufacturer or in locally prepared operating procedures.

(e) *Depainting operations.* Each owner or operator subject to the depainting standards specified in §63.746 shall record the information specified in paragraphs (e)(1) through (e)(7) of this section, as appropriate.

(1) *General.* For all chemical strippers used in the depainting operation:

(i) The name of each chemical stripper; and

(ii) Monthly volumes of each organic HAP containing chemical stripper used or monthly weight of organic HAP-material used for spot stripping and decal removal.

(2) For HAP-containing chemical strippers that are controlled by a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The length of the rolling material balance period and all data and calculations used for determining this rolling period. The record of the certification of the accuracy of the device that measures the amount of HAP or VOC recovered; or

(ii) For nonregenerative carbon adsorbers, the overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The record of the carbon replacement time established as the site-specific operating parameter to demonstrate compliance.

(3) For HAP-containing chemical strippers that are controlled by a control device other than a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(h)) and all test results, data, and calculations used in determining the overall control efficiency;

(ii) [Reserved]

(4) For each type of aircraft depainted at the facility, a listing of the parts, subassemblies, and assemblies normally removed from the aircraft before depainting. Prototype, test model or aircraft that exist in low numbers (i.e., less than 25 aircraft of any one type) are exempt from this requirement.

(5) *Non-chemical based equipment.* If dry media blasting equipment is used to comply with the organic HAP emission limit specified in §63.746(b)(1):

(i) The names and types of non-chemical based equipment; and

(ii) For periods of malfunction,

(A) The non-chemical method or technique that malfunctioned;

(B) The date that the malfunction occurred;

(C) A description of the malfunction;

(D) The methods used to depaint aerospace vehicles during the malfunction period;

(E) The dates that these methods were begun and discontinued; and

(F) The date that the malfunction was corrected.

(6) *Spot stripping and decal removal.* For spot stripping and decal removal, the volume of organic HAP-containing chemical stripper or weight of organic HAP used, the annual average volume of organic HAP-containing chemical stripper or weight of organic HAP used per aircraft, the annual number of aircraft stripped, and all data and calculations used.

(7) *Inorganic HAP emissions.* Each owner or operator shall record the actual pressure drop across the particulate filters or the visual continuity of the water curtain and water flow rate for conventional waterwash systems once each shift in which the depainting process is in operation. For pumpless waterwash systems, the owner or operator shall record the parameter(s) recommended by the booth manufacturer that indicate the performance of the booth once per shift in which the depainting process is in operation. This log shall include the acceptable limit(s) of the pressure drop as specified by the filter manufacturer, the visual continuity of the water curtain and the water flow rate for conventional waterwash systems, or the recommended parameter(s) that indicate the booth performance for pumpless systems as specified by the booth manufacturer or in locally prepared operating procedures.

(f) *Chemical milling maskant application operations*. Each owner or operator seeking to comply with the organic HAP and VOC content limits for the chemical milling maskant application operation, as specified in §63.747(c), or the control system requirements specified in §63.747(d), shall record the information specified in paragraphs (f)(1) through (4) of this section, as appropriate. Each owner and operator using coating manufacturer's supplied data to demonstrate compliance with the applicable organic HAP or VOC limit specified in §63.747(c) may retain the manufacturer's documentation and annual purchase records in place of the records specified in paragraph (f)(1) of this section. Owners and operators using the coating manufacturer's supplied data to demonstrate compliance based on the HAP content of the coating, and adding non-HAP solvent to those coatings, must also maintain records of the non-HAP solvent added to the coating.

(1) For uncontrolled chemical milling maskants that meet the organic HAP or VOC content limit without averaging:

(i) The mass of organic HAP emitted per unit volume of chemical milling maskant as applied (less water) (H_i) and the mass of VOC emitted per unit volume of chemical milling maskant as applied (less water and exempt solvents) (G_i) for each chemical milling maskant formulation used each month (as determined by the procedures specified in §63.750 (k) and (m));

(ii) All data, calculations, and test results (including EPA Method 24 results) used in determining the values of H_i and G_i; and

(iii) The volume (gal) of each chemical milling maskant formulation used each month.

(2) For chemical milling maskants complying with the organic HAP or VOC content level by averaging:

(i) The monthly volume-weighted average masses of organic HAP emitted per unit volume of chemical milling maskant as applied (less water) (H_a) and of VOC emitted per unit volume of chemical milling maskant as applied (less water and exempt solvents) (G_a) for all chemical milling maskants (as determined by the procedures specified in §63.750 (l) and (n)); and

(ii) All data, calculations, and test results (including EPA Method 24 results) used to determine the values of H_a and G_a.

(3) For chemical milling maskants that are controlled by a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The length of the rolling material balance period and all data and calculations used for determining this rolling period. The record of the certification of the accuracy of the device that measures the amount of HAP or VOC recovered; or

(ii) For nonregenerative carbon adsorbers, the overall control efficiency of the control system (as determined using the procedures specified in §63.750(g)) and all test results, data, and calculations used in determining the overall control efficiency. The record of the carbon replacement time established as the site-specific operating parameter to demonstrate compliance.

(4) For chemical milling maskants that are controlled by a control device other than a carbon adsorber:

(i) The overall control efficiency of the control system (as determined using the procedures specified in §63.750(h)) and all test results, data, and calculations used in determining the overall control efficiency;

(ii) If an incinerator other than a catalytic incinerator is used, continuous records of the firebox temperature recorded under §63.751(b)(9) and all calculated 3-hour averages of the firebox temperature; and

(iii) If a catalytic incinerator is used, continuous records of the temperature recorded under §63.751(b)(10) and all calculated 3-hour averages of the recorded temperatures.

[60 FR 45956, Sept. 1, 1996, as amended at 63 FR 15023, Mar. 27, 1998; 63 FR 46534, Sept. 1, 1998; 80 FR 76187, Dec. 7, 2015]

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§63.753 Reporting requirements.

(a)(1) Except as provided in paragraphs (a)(2) through (5) of this section, each owner or operator subject to this subpart shall fulfill the requirements contained in §63.9(a) through (e) and (h) through (j), Notification requirements, and §63.10(a), (b), (d), and (f), Recordkeeping and reporting requirements, of the General Provisions, 40 CFR part 63, subpart A, and that the initial notification for existing sources required in §63.9(b)(2) shall be submitted not later than September 1, 1997, or as specified in §63.9(b)(2). In addition to the requirements of §63.9(h), the notification of compliance status shall include:

(i) Information detailing whether the source has operated within the specified ranges of its designated operating parameters.

(ii) For each coating line, where averaging will be used along with the types of quantities of coatings the facility expects to use in the first year of operation. Averaging scheme shall be approved by the Administrator or delegated State authority and shall be included as part of the facility's title V or part 70 permit.

(2) The initial notification for existing sources, required in §63.9(b)(2) shall be submitted no later than September 1, 1997, or as specified in §63.9(b)(2). For the purposes of this subpart, a title V or part 70 permit application may be used in lieu of the initial notification required under §63.9(b)(2), provided the same information is contained in the permit application as required by §63.9(b)(2), and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA. Permit applications shall be submitted by the same due dates as those specified for the initial notifications.

(3) For the purposes of this subpart, the Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment to a particular time period or postmark deadline submitted under §63.9(i) within 30 calendar days of receiving sufficient information to evaluate the request, rather than 15 calendar days as provided for in §63.9(i)(3).

(4) Each owner or operator subject to this subpart is not required to comply with §63.10(b)(2)(i), (b)(2)(iv), (b)(2)(v), and (d)(5).

(5) If a source fails to meet an applicable standard specified in §§63.744 through 63.748, report such events in the semiannual report:

(i) The number of failures to meet an applicable standard.

(ii) For each instance, report the date, time, and duration of each failure.

(iii) For each failure the report must include a list of the affected sources or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

(b) *Cleaning operation.* Each owner or operator of a cleaning operation subject to this subpart shall submit the following information:

(1) Semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

(i) Any instance where a noncompliant cleaning solvent is used for a non-exempt hand-wipe cleaning operation;

(ii) A list of any new cleaning solvents used for hand-wipe cleaning in the previous 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in §63.744(b)(1);

(iii) Any instance where a noncompliant spray gun cleaning method is used;

(iv) Any instance where a leaking enclosed spray gun cleaner remains unrepaired and in use for more than 15 days; and

(v) If the operations have been in compliance for the semiannual period, a statement that the cleaning operations have been in compliance with the applicable standards. Sources shall also submit a statement of compliance signed by a responsible company official certifying that the facility is in compliance with all applicable requirements.

(c) *Primer, topcoat, and specialty coating application operations.* Each owner or operator of a primer or topcoat application operation subject to this subpart shall submit the following information:

(1) Semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

(i) For primers, topcoats, and specialty coatings where compliance is not being achieved through the use of averaging or a control device, the HAP or VOC content in manufacturer's supplied data as recorded under §63.752(c), or each value of H_i and G_i, as recorded under §63.752(c)(2)(i), that exceeds the applicable organic HAP or VOC content limit specified in §63.745(c);

(ii) For primers, topcoats, and specialty coatings where compliance is being achieved through the use of averaging, each value of H_a and G_a, as recorded under §63.752(c)(4)(i), that exceeds the applicable organic HAP or VOC content limit specified in §63.745(c);

(iii) If incinerators are used to comply with the standards, all periods when the 3-hour average combustion temperature(s) is (are) less than the average combustion temperature(s) established under §63.751(b) (11) or (12) during the most recent performance test during which compliance was demonstrated;

(iv) If a carbon adsorber is used;

(A) each rolling period when the overall control efficiency of the control system is calculated to be less than 81%, the initial material balance calculation, and any exceedances as demonstrated through the calculation; or,

(B) for nonregenerative carbon adsorbers, submit the design evaluation, the continuous monitoring system performance report, and any excess emissions as demonstrated through deviations of monitored values.

(v) For control devices other than an incinerator or carbon adsorber, each exceedance of the operating parameter(s) established for the control device under the initial performance test during which compliance was demonstrated;

(vi) All times when a primer or topcoat application operation was not immediately shut down when the pressure drop across a dry particulate filter or HEPA filter system, the water flow rate through a conventional waterwash system, or the recommended parameter(s) that indicate the booth performance for pumpless systems, as appropriate, was outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operating procedures;

(vii) If the operations have been in compliance for the semiannual period, a statement that the operations have been in compliance with the applicable standards; and,

(2) Annual reports beginning 12 months after the date of the notification of compliance status listing the number of times the pressure drop or water flow rate for each dry filter or waterwash system, as applicable, was outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operating procedures.

(d) *Depainting operation.* Each owner or operator of a depainting operation subject to this subpart shall submit the following information:

(1) Semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

(i) Any 24-hour period where organic HAP were emitted from the depainting of aerospace vehicles, other than from the exempt operations listed in §63.746 (a), (b)(3), and (b)(5).

(ii) Any new chemical strippers used at the facility during the reporting period;

(iii) The organic HAP content of these new chemical strippers;

(iv) For each chemical stripper that undergoes reformulation, its organic HAP content;

(v) Any new non-chemical depainting technique in use at the facility since the notification of compliance status or any subsequent semiannual report was filed;

(vi) For periods of malfunctions:

(A) The non-chemical method or technique that malfunctioned;

(B) The date that the malfunction occurred;

(C) A description of the malfunction;

(D) The methods used to depaint aerospace vehicles during the malfunction period;

(E) The dates that these methods were begun and discontinued; and

(F) The date that the malfunction was corrected;

(vii) All periods where a nonchemical depainting operation subject to §63.746(b)(2) and (b)(4) for the control of inorganic HAP emissions was not immediately shut down when the pressure drop, water flow rate, or recommended booth parameter(s) was outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operational procedures;

(viii) A list of new and discontinued aircraft models depainted at the facility over the last 6 months and a list of the parts normally removed for depainting for each new aircraft model being depainted; and

(ix) If the depainting operation has been in compliance for the semiannual period, a statement signed by a responsible company official that the operation was in compliance with the applicable standards.

(2) Annual reports occurring every 12 months from the date of the notification of compliance status that identify:

(i) The average volume per aircraft of organic HAP-containing chemical strippers or weight of organic HAP used for spot stripping and decal removal operations if it exceeds the limits specified in §63.746(b)(3); and

(ii) The number of times the pressure drop limit(s) for each filter system or the number of times the water flow rate limit (s) for each waterwash system were outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operating procedures.

(3) Where a control device is used to control organic HAP emissions, semiannual reports that identify:

(i) If a carbon adsorber is used,

(A) each rolling period when the overall control efficiency of the control system is calculated to be less than 81% for existing systems or less than 95% for new systems, the initial material balance calculation, and any exceedances as demonstrated through the calculation; or,

(B) for nonregenerative carbon adsorbers, submit the design evaluation, the continuous monitoring system performance report, and any excess emissions as demonstrated through deviations of monitored values.

(ii) For control devices other than a carbon adsorber, each exceedance of the operating parameter(s) established for the control device under the initial performance test during which compliance was demonstrated;

(iii) Descriptions of any control devices currently in use that were not listed in the notification of compliance status or any subsequent report.

(e) *Chemical milling maskant application operation.* Each owner or operator of a chemical milling maskant application operation subject to this subpart shall submit semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

(1) For chemical milling maskants where compliance is not being achieved through the use of averaging or a control device, the HAP or VOC content in manufacturer's supplied data as recorded under §63.752(f), or each value of H_i and G_i, as recorded under §63.752(f)(1)(i), that exceeds the applicable organic HAP or VOC content limit specified in §63.747(c);

(2) For chemical milling maskants where compliance is being achieved through the use of averaging, each value of H_a and G_a, as recorded under §63.752(f)(2)(i), that exceeds the applicable organic HAP or VOC content limit specified in §63.747(c);

(3) Where a control device is used,

(i) If incinerators are used to comply with the standards, all periods when the 3-hour average combustion temperature (s) is (are) less than the average combustion temperature(s) established under §63.751(b) (11) or (12) during the most recent performance test during which compliance was demonstrated;

(ii) If a carbon adsorber is used,

(A) Each rolling period when the overall control efficiency of the control system is calculated to be less than 81%, the initial material balance calculation, and any exceedances as demonstrated through the calculation; or,

(B) For nonregenerative carbon adsorbers, submit the design evaluation, the continuous monitoring system performance report, and any excess emissions as demonstrated through deviations of monitored values.

(iii) For control devices other than an incinerator or carbon adsorber, each exceedance of the operating parameter(s) established for the control device under the initial performance test during which compliance was demonstrated;

(4) All chemical milling maskants currently in use that were not listed in the notification of compliance status or any other subsequent semiannual report;

(5) Descriptions of any control devices currently in use that were not listed in the notification of compliance status or any subsequent report; and

(6) If the operations have been in compliance for the semiannual period, a statement that the chemical milling maskant application operation has been in compliance with the applicable standards.

(f) Within 60 days after the date of completing each performance test (as defined in §63.2) required by this subpart, you must submit the results of the performance tests following the procedure specified in either paragraph (f)(1) or (2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/*)). Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (f).

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in §63.13.

[60 FR 45956, Sept. 1, 1996; 61 FR 4903, Feb. 9, 1996, as amended at 61 FR 66227, Dec. 17, 1996; 63 FR 15023, Mar. 27, 1998; 63 FR 46535, Sept. 1, 1998; 80 FR 76187, Dec. 7, 2015]

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§§63.754-63.758 [Reserved]

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§63.759 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.741, 63.743, 63.744(a)(3), (b) through (e), 63.745 through 63.748, and 63.649(a).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

[68 FR 37352, June 23, 2003]

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Table 1 to Subpart GG of Part 63—General Provisions Applicability to Subpart GG

Reference	Applies to affected sources in subpart GG	Comment
63.1(a)(1)	Yes	
63.1(a)(2)	Yes	
63.1(a)(3)	Yes	
63.1(a)(4)	Yes	
63.1(a)(5)	No	Reserved.
63.1(a)(6)	Yes	

63.1(a)(7)	Yes	
63.1(a)(8)	Yes	
63.1(a)(9)	No	Reserved.
63.1(a)(10)	Yes	
63.1(a)(11)	Yes	
63.1(a)(12)	Yes	
63.1(a)(13)	Yes	
63.1(a)(14)	Yes	
63.1(b)(1)	Yes	
63.1(b)(2)	Yes	
63.1(b)(3)	Yes	
63.1(c)(1)	Yes	
63.1(c)(2)	Yes	Subpart GG does not apply to area sources.
63.1(c)(3)	No	Reserved.
63.1(c)(4)	Yes	
63.1(c)(5)	Yes	
63.1(d)	No	Reserved.
63.1(e)	Yes	
63.2	Yes	
63.3	Yes	
63.4(a)(1)	Yes	
63.4(a)(2)	Yes	
63.4(a)(3)	Yes	
63.4(a)(4)	No	Reserved.
63.4(a)(5)	Yes	
63.4(b)	Yes	
63.4(c)	Yes	
63.5(a)	Yes	
63.5(b)(1)	Yes	
63.5(b)(2)	No	Reserved.
63.5(b)(3)	Yes	
63.5(b)(4)	Yes	
63.5(b)(5)	Yes	
63.5(b)(6)	Yes	
63.5(c)	No	Reserved.
63.5(d)(1)(i)	Yes	
63.5(d)(1)(ii)(A)-(H)	Yes	
63.5(d)(1)(ii)(I)	No	Reserved.
63.5(d)(1)(ii)(J)	Yes	
63.5(d)(1)(iii)	Yes	
63.5(d)(2)-(4)	Yes	
63.5(e)	Yes	
63.5(f)	Yes	
63.6(a)	Yes	
63.6(b)(1)-(5)	Yes	§63.749(a) specifies compliance dates for new sources.
63.6(b)(6)	No	Reserved.
63.6(b)(7)	Yes	
63.6(c)(1)	Yes	
63.6(c)(2)	No	The standards in subpart GG are promulgated under section 112(d) of the Act.
63.6(c)(3)-(4)	No	Reserved.
63.6(c)(5)	Yes	
63.6(d)	No	Reserved.
63.6(e)(1)(i)	No	*See* §63.743(e) for general duty requirement.
63.6(e)(1)(ii)	No	
63.6(e)(2)	No	Section reserved.
63.6(e)(3)	No	
63.6(f)(1)	No	
63.6(f)(2)-(f)(3)	Yes	
63.6(g)	Yes	
63.6(h)	No	The standards in subpart GG do not include opacity standards.
63.6(i)(1)-(3)	Yes	
63.6(i)(4)(i)(A)	Yes	
63.6(i)(4)(i)(B)	No	§63.743(a)(4) specifies that requests for extension of compliance must be submitted no later than 120 days before an affected source's compliance date.
63.6(i)(4)(ii)	No	The standards in subpart GG are promulgated under section 112(d) of the Act.
63.6(i)(5)-(12)	Yes	
63.6(i)(13)	Yes	
63.6(i)(14)	Yes	
63.6(i)(15)	No	Reserved.
63.6(i)(16)	Yes	
63.6(j)	Yes	
63.7(a)(1)	Yes	

63.7(a)(2)(i)-(vi)	Yes	
63.7(a)(2)(vii)-(viii)	No	Reserved.
63.7(a)(2)(ix)	Yes	
63.7(a)(3)	Yes	
63.7(b)	Yes	
63.7(c)	Yes	
63.7(d)	Yes	
63.7(e)(1)	No	*See* §63.749(j).
63.7(e)(2)-(4)	Yes	
63.7(f)	Yes	
63.7(g)(1)	Yes	
63.7(g)(2)	No	Reserved.
63.7(g)(3)	Yes	
63.7(h)	Yes	
63.8(a)(1)-(2)	Yes	
63.8(a)(3)	No	Reserved.
63.8(a)(4)	Yes	
63.8(b)	Yes	
63.8(c)(1)(i)	No	
63.8(c)(1)(ii)	Yes	
63.8(c)(1)(iii)	No	
63.8(c)(2)-(d)(2)	Yes	
63.8(d)(3)	No	
63.8(e)(1)-(4)	Yes	
63.8(e)(5)(i)	Yes	
63.8(e)(5)(ii)	No	The standards in subpart GG do not include opacity standards.
63.8(f)(1)	Yes	
63.8(f)(2)(i)-(vii)	Yes	
63.8(f)(2)(viii)	No	The standards in subpart GG do not include opacity standards.
63.8(f)(2)(ix)	Yes	
63.8(f)(3)-(6)	Yes	
63.8(g)	Yes	
63.9(a)	Yes	
63.9(b)(1)	Yes	
63.9(b)(2)	Yes	§63.753(a)(1) requires submittal of the initial notification at least 1 year prior to the compliance date; §63.753(a)(2) allows a title V or part 70 permit application to be substituted for the initial notification in certain circumstances.
63.9(b)(3)	Yes	
63.9(b)(4)	Yes	
63.9(b)(5)	Yes	
63.9(c)	Yes	
63.9(d)	Yes	
63.9(e)	Yes	
63.9(f)	No	The standards in subpart GG do not include opacity standards.
63.9(g)(1)	No	
63.9(g)(2)	No	The standards in subpart GG do not include opacity standards.
63.9(g)(3)	No	
63.9(h)(1)-(3)	Yes	§63.753(a)(1) also specifies additional information to be included in the notification of compliance status.
63.9(h)(4)	No	Reserved.
63.9(h)(5)-(6)	Yes	
63.9(i)	Yes	
63.9(j)	Yes	
63.10(a)	Yes	
63.10(b)(1)	Yes	
63.10(b)(2)(i)	No	
63.10(b)(2)(ii)	No	*See* §63.752(a) for recordkeeping of (1) date, time, and duration; (2) listing of affected source or equipment, and an estimate of the quantity of each regulated pollutant emitted over the standard; and (3) actions to minimize emissions and correct the failure.
63.10(b)(2)(iii)	Yes	
63.10(b)(2)(iv)-(v)	No	
63.10(b)(2)(vi)	Yes	
63.10(b)(2)(vi)(A)-(C)	No	§63.10(b)(vii)(A), (B) and (C) do not apply because subpart GG does not require the use of CEMS.
63.10(b)(2)(vii)-(xiv)		
63.10(b)(3)	Yes	
63.10(c)(1)	No	
63.10(c)(2)-(4)	No	Reserved.
63.10(c)(5)-(6)	No	
63.10(c)(7)-(8)	Yes	

63.10(c)(9)	No	Reserved.
63.10(c)(10)-(13)	No	
63.10(c)(14)	No	§63.8(d) does not apply to this subpart.
63.10(c)(15)	No	
63.10(d)(1)-(2)	Yes	
63.10(d)(3)	No	The standards in subpart GG do not include opacity standards.
63.10(d)(4)	Yes	
63.10(d)(5)	No	*See* §63.753(a)(5) for malfunction reporting requirements.
63.(10)(e)(1)	No	
63.10(e)(2)(i)	No	
63.10(e)(2)(ii)	No	The standards in subpart GG do not include opacity standards.
63.10(e)(3)	No	
63.10(e)(4)	No	The standards in subpart GG do not include opacity standards.
63.10(f)	Yes	
63.11	Yes	
63.12	Yes	
63.13	Yes	
63.14	Yes	
63.15	Yes	
63.16	Yes	

[80 FR 76188, Dec. 7, 2015]

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Appendix A to Subpart GG of Part 63—Specialty Coating Definitions

Ablative coating—A coating that chars when exposed to open flame or extreme temperatures, as would occur during the failure of an engine casing or during aerodynamic heating. The ablative char surface serves as an insulative barrier, protecting adjacent components from the heat or open flame.

Adhesion promoter—A very thin coating applied to a substrate to promote wetting and form a chemical bond with the subsequently applied material.

Adhesive bonding primer—A primer applied in a thin film to aerospace components for the purpose of corrosion inhibition and increased adhesive bond strength by attachment. There are two categories of adhesive bonding primers: primers with a design cure at 250 °F or below and primers with a design cure above 250 °F.

Aerosol coating—A hand-held, pressurized, nonrefillable container that expels an adhesive or a coating in a finely divided spray when a valve on the container is depressed.

Antichafe coating—A coating applied to areas of moving aerospace components that may rub during normal operations or installation.

Bearing coating—A coating applied to an antifriction bearing, a bearing housing, or the area adjacent to such a bearing in order to facilitate bearing function or to protect base material from excessive wear. A material shall not be classified as a bearing coating if it can also be classified as a dry lubricative material or a solid film lubricant.

Bonding maskant—A temporary coating used to protect selected areas of aerospace parts from strong acid or alkaline solutions during processing for bonding.

Caulking and smoothing compounds—Semi-solid materials which are applied by hand application methods and are used to aerodynamically smooth exterior vehicle surfaces or fill cavities such as bolt hole accesses. A material shall not be classified as a caulking and smoothing compound if it can also be classified as a sealant.

Chemical agent-resistant coating (CARC)—An exterior topcoat designed to withstand exposure to chemical warfare agents or the decontaminants used on these agents.

Clear coating—A transparent coating usually applied over a colored opaque coating, metallic substrate, or placard to give improved gloss and protection to the color coat. In some cases, a clearcoat refers to any transparent coating without regard to substrate.

Commercial exterior aerodynamic structure primer—A primer used on aerodynamic components and structures that protrude from the fuselage, such as wings and attached components, control surfaces, horizontal stabilizers, vertical fins, wing-to-body fairings, antennae, and landing gear and doors, for the purpose of extended corrosion protection and enhanced adhesion.

Commercial interior adhesive—Materials used in the bonding of passenger cabin interior components. These components must meet the FAA fireworthiness requirements.

Compatible substrate primer—Includes two categories: compatible epoxy primer and adhesive primer. *Compatible epoxy primer* is primer that is compatible with the filled elastomeric coating and is epoxy based. The compatible substrate primer is an epoxy-polyamide primer used to promote adhesion of elastomeric coatings such as impact-resistant coatings. *Adhesive primer* is a coating that (1) inhibits corrosion and serves as a primer applied to bare metal surfaces or prior to adhesive application, or (2) is applied to surfaces that can be expected to contain fuel. Fuel tank coatings are excluded from this category.

Corrosion prevention system—A coating system that provides corrosion protection by displacing water and penetrating mating surfaces, forming a protective barrier between the metal surface and moisture. Coatings containing oils or waxes are excluded from this category.

Critical use and line sealer maskant—A temporary coating, not covered under other maskant categories, used to protect selected areas of aerospace parts from strong acid or alkaline solutions such as those used in anodizing, plating, chemical milling and processing of magnesium, titanium, high-strength steel, high-precision aluminum chemical milling of deep cuts, and aluminum chemical milling of complex shapes. Materials used for repairs or to bridge gaps left by scribing operations (i.e. line sealer) are also included in this category.

Cryogenic flexible primer—A primer designed to provide corrosion resistance, flexibility, and adhesion of subsequent coating systems when exposed to loads up to and surpassing the yield point of the substrate at cryogenic temperatures (−275 °F and below).

Cryoprotective coating—A coating that insulates cryogenic or subcooled surfaces to limit propellant boil-off, maintain structural integrity of metallic structures during ascent or re-entry, and prevent ice formation.

Cyanoacrylate adhesive—A fast-setting, single component adhesive that cures at room temperature. Also known as “super glue.”

Dry lubricative material—A coating consisting of lauric acid, cetyl alcohol, waxes, or other non-cross linked or resin-bound materials which act as a dry lubricant.

Electric or radiation-effect coating—A coating or coating system engineered to interact, through absorption or reflection, with specific regions of the electromagnetic energy spectrum, such as the ultraviolet, visible, infrared, or microwave regions. Uses include, but are not limited to, lightning strike protection, electromagnetic pulse (EMP) protection, and radar avoidance. Coatings that have been designated as “Classified National Security Information” by the Department of Defense are exempt.

Electrostatic discharge and electromagnetic interference (EMI) coating—A coating applied to aerospace vehicles and components to disperse static energy or reduce electromagnetic interference.

Elevated-temperature Skydrol-resistant commercial primer—A primer applied primarily to commercial aircraft (or commercial aircraft adapted for military use) that must withstand immersion in phosphate-ester (PE) hydraulic fluid (Skydrol 500b or equivalent) at the elevated temperature of 150 °F for 1,000 hours.

Epoxy polyamide topcoat—A coating used where harder films are required or in some areas where engraving is accomplished in camouflage colors.

Fire-resistant (interior) coating—For civilian aircraft, fire-resistant interior coatings are used on passenger cabin interior parts that are subject to the FAA fireworthiness requirements. For military aircraft, fire-resistant interior coatings are used on parts subject to the flammability requirements of MIL-STD-1630A and MIL-A-87721. For space applications, these coatings are used on parts subject to the flammability requirements of SE-R-0006 and SSP 30233.

Flexible primer—A primer that meets flexibility requirements such as those needed for adhesive bond primed fastener heads or on surfaces expected to contain fuel. The flexible coating is required because it provides a compatible, flexible substrate over bonded sheet rubber and rubber-type coatings as well as a flexible bridge between the fasteners, skin, and skin-to-skin joints on outer aircraft skins. This flexible bridge allows more topcoat flexibility around fasteners and decreases the chance of the topcoat cracking around the fasteners. The result is better corrosion resistance.

Flight test coating—A coating applied to aircraft other than missiles or single-use aircraft prior to flight testing to protect the aircraft from corrosion and to provide required marking during flight test evaluation.

Fuel tank adhesive—An adhesive used to bond components exposed to fuel and that must be compatible with fuel tank coatings.

Fuel tank coating—A coating applied to fuel tank components to inhibit corrosion and/or bacterial growth and to assure sealant adhesion in extreme environmental conditions.

High temperature coating—A coating designed to withstand temperatures of more than 350 °F.

Insulation covering—Material that is applied to foam insulation to protect the insulation from mechanical or environmental damage.

Intermediate release coating—A thin coating applied beneath topcoats to assist in removing the topcoat in depainting operations and generally to allow the use of less hazardous depainting methods.

Lacquer—A clear or pigmented coating formulated with a nitrocellulose or synthetic resin to dry by evaporation without a chemical reaction. Lacquers are resoluble in their original solvent.

Metalized epoxy coating—A coating that contains relatively large quantities of metallic pigmentation for appearance and/or added protection.

Mold release—A coating applied to a mold surface to prevent the molded piece from sticking to the mold as it is removed.

Nonstructural adhesive—An adhesive that bonds nonload bearing aerospace components in noncritical applications and is not covered in any other specialty adhesive categories.

Optical anti-reflection coating—A coating with a low reflectance in the infrared and visible wavelength ranges, which is used for anti-reflection on or near optical and laser hardware.

Part marking coating—Coatings or inks used to make identifying markings on materials, components, and/or assemblies. These markings may be either permanent or temporary.

Pretreatment coating—An organic coating that contains at least 0.5 percent acids by weight and is applied directly to metal or composite surfaces to provide surface etching, corrosion resistance, adhesion, and ease of stripping.

Rain erosion-resistant coating—A coating or coating system used to protect the leading edges of parts such as flaps, stabilizers, radomes, engine inlet nacelles, etc. against erosion caused by rain impact during flight.

Rocket motor bonding adhesive—An adhesive used in rocket motor bonding applications.

Rocket motor nozzle coating—A catalyzed epoxy coating system used in elevated temperature applications on rocket motor nozzles.

Rubber-based adhesive—Quick setting contact cements that provide a strong, yet flexible, bond between two mating surfaces that may be of dissimilar materials.

Scale inhibitor—A coating that is applied to the surface of a part prior to thermal processing to inhibit the formation of scale.

Screen print ink—Inks used in screen printing processes during fabrication of decorative laminates and decals.

Seal coat maskant—An overcoat applied over a maskant to improve abrasion and chemical resistance during production operations.

Sealant—A material used to prevent the intrusion of water, fuel, air, or other liquids or solids from certain areas of aerospace vehicles or components. There are two categories of sealants: extrudable/rollable/brushable sealants and sprayable sealants.

Silicone insulation material—Insulating material applied to exterior metal surfaces for protection from high temperatures caused by atmospheric friction or engine exhaust. These materials differ from ablative coatings in that they are not “sacrificial.”

Solid film lubricant—A very thin coating consisting of a binder system containing as its chief pigment material one or more of the following: molybdenum, graphite, polytetrafluoroethylene (PTFE), or other solids that act as a dry lubricant between faying surfaces.

Specialized function coatings—Coatings that fulfill extremely specific engineering requirements that are limited in application and are characterized by low volume usage. This category excludes coatings covered in other Specialty Coating categories.

Structural autoclavable adhesive—An adhesive used to bond load-carrying aerospace components that is cured by heat and pressure in an autoclave.

Structural nonautoclavable adhesive—An adhesive cured under ambient conditions that is used to bond load-carrying aerospace components or for other critical functions, such as nonstructural bonding in the proximity of engines.

Temporary protective coating—A coating applied to provide scratch or corrosion protection during manufacturing, storage, or transportation. Two types include peelable protective coatings and alkaline removable coatings. These materials are not intended to protect against strong acid or alkaline solutions. Coatings that provide this type of protection from chemical processing are not included in this category.

Thermal control coating—Coatings formulated with specific thermal conductive or radiative properties to permit temperature control of the substrate.

Touch-up and Repair Coating—A coating used to cover minor coating imperfections appearing after the main coating operation.

Wet fastener installation coating—A primer or sealant applied by dipping, brushing, or daubing to fasteners that are installed before the coating is cured.

Wing coating—A corrosion-resistant topcoat that is resilient enough to withstand the flexing of the wings.

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